Clinical Medicine

Original Articles for March, 1955

Some Helpful Hints on Ear, Nose and Throat In General Practice 237
Alfred Lewy, M.D.

Principles of Peptic Ulcer Therapy 249
James F. Crenshaw, M.D.

Management of Hay Fever and Allergic Rhinitis with Bacterial Pyrogen 255
Charles A. Leech, Jr., M.D.

An Evaluation of Pronac, a New Approach to Topical Sulfur Therapy 259
Melvin L. Grais, Capt., M.C.

Healing of a Leg Ulcer After Twenty Years 263
Albert Fields, M.D.

Intestinal Obstruction 267
Philip Thorek, M.D.

Cancer: The Preconditioning Factor in Pathogenesis 273
W. J. McCormick, M.D.

TABLE OF CONTENTS

Vol. 2 March, 1955 No. 3

Editorial

"I Don't Take Night Calls" 235
James M. Northington, M.D.

Original Articles

Some Helpful Hints on Ear, Nose and Throat In General Practice 237
Alfred Lewy, M.D.

Principles of Peptic Ulcer Therapy 249
James F. Crenshaw, M.D.

Management of Hay Fever and Allergic Rhinitis with Bacterial Pyrogen 255
Charles A. Leech, Jr., M.D.

An Evaluation of Pronac, a New Approach to Topical Sulfur Therapy 259
Melvin L. Grais, Capt. M.C.

Healing of a Leg Ulcer After Twenty Years . . . 263
Albert Fields, M.D.

Intestinal Obstruction 267
Philip Thorek, M.D.

Cancer: The Preconditioning Factor in Pathogenesis 273
W. J. McCormick, M.D.

Current Literature

Diagnosis by the Hand 285
J. J. Silverman, M.D.

The Non-Specialist in the Care of Allergic Disease 289
S. M. Feinberg, M.D.

Mental Compromise and Senescence 291
J. R. Willson, M.D.

Use and Abuse of Antibiotics 293
Erwin Neter, M.D.

Possible Injurious Effects from Diagnostic Fluoroscopy and Roentgenography 297
J. M. Ivie, M.D.

Selection of Patients for Gynecologic Surgery . . 299
R. W. Goshorn, M.D.

(Continued on next page)

TABLE OF CONTENTS *(Continued)*

Case of Florida Diamondback Rattlesnake Bite . . 301
H. F. Watt, M.D.

Disorders of the Foot 305
B. L. Freeman, Jr., M.D.

Old Age and the "Vices" 307
R. L. Cecil, M.D.

Congenital Dislocation of Hips 311
Garrett Pipkin, M.D.

AIDS IN DIAGNOSIS 313

NEW PHARMACEUTICAL PRODUCTS 317

LITERATURE SERVICE 321

THERAPEUTIC TRENDS 323

BOOK REVIEWS 331

MANUSCRIPTS should be addressed to The Editor, *Clinical Medicine*, P. O. Box M, Winnetka, Illinois. Manuscripts accepted only with the understanding that they are contributed exclusively to *Clinical Medicine*. Manuscripts should be typed double or triple-spaced, on one side of the paper only. Drawings or photographs will be reproduced at no cost to the author. Bibliographic references should be kept to a minimum.

REPRINTS Authors will be furnished reprints at cost. Manuscripts, when accepted become the exclusive property of *Clinical Medicine*.

EDITORIAL

"I Don't Take Night Calls"

A discussion of the advisability of acceptance of reasonable night calls from patients under previous treatment

JAMES M. NORTHINGTON, M.D., *Editor*

Herewith is reproduced an editorial I wrote for *Southern Medicine & Surgery* in December, 1945.

A Western medical editor[1] has spoken his mind on one of the most flagrant and impudent abuses in modern medical practice. Among the points made are these:

The physician is as deserving of his eight hours of sleep as anyone; nevertheless our ancestors in the profession responded with good grace to every reasonable summons, regardless of time or weather, realizing that a doctor's responsibility to his patients is not contingent upon the barometer or the position of the hands of the clock. No other outlook is consistent with the traditions of the profession.

An ingenious but highly reprehensible device to sidestep the burdensome night call has recently been reported from several sources. The doctor simply expresses his regret at not being able to respond because, "I do not take night calls." This is said with an assurance which impresses the patient as logical and final to the point of admitting no further discussion.

One might well expect the patient who is thus rebuffed to feel resentment, particularly if the doctor-patient relationship has been established by previous treatment at hospital, office or home. On the con-

1. *Rocky Mountain M. Jl. Sept.* 1945.

trary, the patient's reaction appears often to be the quixotic one of profound respect. It is concluded that Dr. X cannot be other than a great leader in his profession, too dignified and important for the hurly-burly of night work, a man who must not risk by undue fatigue any particle of his precious mental acumen, which must be kept intact for the horde of patients the morrow will bring to his office.

The patient thereupon takes up her phone book, rings Dr. Z. and requests him to come at once. Dr. Z inquires about previous medical care. He receives the reply that "Dr. X prescribed for me yesterday at his office, but he cannot come tonight because, as you may know, he does not take night calls." The patient then is shocked and mystified when Dr. Z makes such a testy comment as easily comes to his lips. Perhaps he slams the receiver to close the conversation. In thinking it over, the patient is unlikely to feel any resentment toward Dr. X, but she is sure to reach a white-heat of indignation in her sense of having been insulted and outraged by the coldhearted Dr. Z.

MEDICAL ETHICS

It is Dr. X who has flouted the patient. In taking the case and treating her at his office, he assumes a responsibility which does not end when the sun goes down. For two doctors to treat the same patient independently, one by day and the other by night, would be absurd. The idea is without sanction in medical ethics or basis in common sense. If Dr. Z has a particle of self-respect he will not permit the burden of the night call to be shifted to his back in such an airy manner. On the following day the patient would return to the care of Dr. X, and then proceed to tell her friends that Dr. Z is no great shakes as a doctor, but may be handy when better doctors are not available.

In essence, the simple statement of a physician that he does not take night calls is an insult to his colleagues as well as a breach of his duty to the public. If necessary, medical societies should suppress this practice, even though it may require disciplinary action in certain cases.

All this is not to imply that a doctor has no right to make a specific advance arrangement with a younger, healthier or less busy colleague to handle emergency or night calls. In such case, the doctor should explain the provision which is made, and telephone the second physician to apprise him of the call. In no other way can a doctor decline to make night calls without laying himself open to a legitimate charge of dereliction of professional duty.

I have had more than one experience of this kind since taking on some of the duties of general practice to help meet the exigencies of "the emergency." A voice called me in the dead of night to come right away to a certain number on a certain street. On being asked for a name, the voice gave one, quite impatiently, although it was entirely unknown to me. Then I asked the name of her regular physician and she gave that of one considerably my junior and who is certainly not, in the opinion of any one but himself, a very learned, distinguished or important man — adding, "but he does not take night calls."

Maybe he did and maybe he did not. I did not.

I hope many a family doctor will find in what has been said here encouragement to stand up for himself, and so, not only maintain his self-respect, but have patients come to him for regular service by day.

ORIGINAL ARTICLES

Some Helpful Hints on Ear, Nose and Throat In General Practice

An analysis of treatments currently of great value for otolaryngological problems frequently encountered in practice

ALFRED LEWY, M.D., *Chicago, Illinois*

Many readers will be familiar with most of what is to be said here. It is offered for acceptance according to need and inclination.

We will begin with the mouth. Cheilosis, the cracking open of the corners of the mouth, when not due to syphilis, is an excellent indication of riboflavin deficiency. When combined with redness of the buccal mucous membrane and tongue, perhaps extending to the throat it suggests that nicotinic acid is also deficient. You may give multivitamins in *therapeutic* — not merely *maintenance* — doses, the riboflavin in extra quantity, say 10 mg. two or three times per day to begin, lessening the dose as improvement shows. A colleague's "sorethroat," with red mouth and tongue and cracked lips at the corners, which had resisted treatment over a month, promptly subsided on vitamin therapy. He was on a "liberal diet."

CANKER SORES

Very common are aphthae, or canker sores in the mouth, most of them easily disposed of in one treatment with 10% nitric acid. First, dry with a cotton-tipped applicator and *immediately* touch with the acid on another applicator held in the other hand. It is painful for a second and thereafter anesthetic. In a day or two the lesions are healed. If recurrent the underlying condition must be sought out and corrected.

Lichen planus, on the buccal mucosa shows as many white dots or branching streaks. A case which I failed to diagnose eventually fell into the hands of a dermatologist who made the correct diagnosis, and I believe a cure. Many white patches of ulceration begin as vesicles, and break down early into white patches. Pemphigus must be kept in mind. In one case I did not make the diagnosis until a vesicular lesion appeared on the back of the neck. Two well known dermatologists thereafter disagreed as to whether it was pemphigus or dermatitis herpetiformis. The patient died within a year.

Leucoplakia, a slightly raised white or gray patch on the tongue or buccal mucosa, is said to occur more often in smokers. It is best removed with the high-frequency loop. There is a difference of opinion as to its relation to cancer.

VINCENT'S ANGINA

A not-infrequent infection of mouth and tonsils is Vincent's angina, which shows by ulcerous lesions of the gums and/or deep ulceration of the tonsils. The microscopic examination of the smear shows many fusiform bacilli and spirochetes. Clinically it resembles both syphilis and cancer. Failure to respond promptly to treatment should suggest biopsy. Vincent's responds promptly to penicillin.

At this point I suggest that for minor injuries and lesions of the mucous membranes that require only protection, the compound fluid extract of benzoin painted on leaves a coat of resin and seems to promote healing.

A small book "Oral and Facial Cancer," by B. G. Sarnat and I. Schour, of the dental department, University of Illinois Medical School, deals with many lesions of the mouth and throat, and is well illustrated.

REMOVAL OF TONSILS AND ADENOIDS

A frequent problem is whether or not to remove the tonsils. The indications that I have followed are obstructive size, history of frequent inflammations, enlarged cervical glands, and ear trouble. For this last adenoid removal is the more important. Rheumatic endocarditis, after subsidence of the acute stage, is an important indication. A depressed drum membrane of ham color, is always suggestive of adenoids of obstructive size. Especially in children under 6 adenoid removal is frequently adequate, although the percentage of recurrence is high, and tonsillectomy also may be indicated later. The profession is greatly disturbed by the question of doing tonsillectomies during polio epidemics. Statistics show no greater incidence following tonsillectomy than the general average, but seem to show that following tonsillectomy if polio develop it is more apt to be of the bulbar type. It is unwise to do tonsillectomies if avoidable, during epidemics of respiratory diseases.

The little yellow deposits in tonsils with large crypts are harmless although sometimes the cause of bad breath. They are most easily cleaned out by an air blast through eustachian catheter. The tonsils seem to reduce in size if kept clean. When these accumulations are due to fungus infection they also usually appear in the pharyngeal follicles and cannot be removed easily. The best local treatment is the actual cautery.

POSTNASAL DISCHARGE

The textbooks all deal with the ubiquitous postnasal discharge. Their writers are the only ones who seem to know how to cure it. Sometimes I do. It requires investigation for nasal sinus trouble and for allergy. A diet of too much starch and sugar seems to promote it, and

I have never seen a case cured in a persistent smoker. If due to allergy and the offending allergen can be discovered and eliminated, improvement may be looked for. Sinus infection is more easily discovered and cured. Astringents applied locally help some, but few patients think it worth the time and money required. Iodine and potassium iodide, 10 grains, to the ounce of tannate of glycerin is my most frequently used astringent. If silver nitrate is used, great care must be exercised that there is no drip to the larynx, which will cause a spasm of the glottis. This is not harmful but frightens the patient.

What I want to tell you about peritonsillar abscess is to wait if you can, about five days before making the incision and you will be quite sure of striking the pus pocket. I use a cataract knife inserted, sharp side toward the uvula, into the soft palate between the tonsil and the uvula near the tonsil; a little higher than the base of the uvula. When pus appears cut transversely toward the uvula about ¼ inch. With the evacuation relief is prompt. Apply 10% cocain on a curved applicator through the nose to the area behind the middle turbinate, which is where the spheno-palatine ganglion lies under the mucosa; leave it in place 5 to 10 minutes.. An abscess originating around a molar tooth, the pus lies between the tooth and the anterior pillar and the incision should be through the anterior pillar and behind the tonsil. As this is near the internal carotid, incise the mucosa *only*, insert a hemostat till pus is reached and open its jaws. When the abscess is in this location trimus is marked and examination difficult.

Diphtheria is a rare disease; but any case of sore throat with adherent membrane bleeding on removal, and fever, should have diphtheria antitoxin without awaiting the result of culture of the throat swab.

Swelling of the salivary glands, aside from epidemic mumps, is apt to be due to blocking by a calculus, usually demonstrable by x-ray. Sometimes a calculus in Wharton's duct can be palpated, and removed under local anesthesia. The duct is incised longitudinally and after extraction of the stone left open. Hot applications often relieve the pain of the swollen gland. If surgery is necessary on the parotid it should be done by an experienced surgeon because of the danger to the facial nerve.

COMMON COLD AND SINUS INFLAMMATION

For the common cold the best home treatment I know is immersion in a hot bath for 15 minutes, while 3 pints of hot liquid (any liquid will do) with or without an alcoholic drink are drunk, after which the patient goes to bed between cotton or woolen blankets (not sheets). After an hour a dry rub down — and then a night's sleep. No analgesics unless the discomfort is great. They do nothing toward the cure, may lower resistance to secondary infections. Antibiotics have distinct value, at least as preventives of complications. Office aerosol applications, of which I have principally used penicillin, have value. If you give penicillin by injection for a sinus infection, give 800,000 units the first dose. Try to learn beforehand if the patient is allergic to penicillin and if so include some ephedrin-like preparation with the penicillin. You should have compressed air, or at least a tire pump to operate the nebulizer. If local applications are to be made to the nasal mucosa, my favorite is cocain 4% followed by compound fluid extract benzoin. The deposited resin seems to protect the inflamed membrane and keep it comfortable for many hours. Milk of magnesia and oil,

equal parts, is also soothing for a while and does not sting.

For relief of the pain and stoppage of acute sinus inflammation an excellent home treatment, beside the sweat bath, is the inhalation of steam — by wetting a large folded turkish towel in steaming hot water, holding it to the face and inhaling the steam. Chronic cases require specialist service. Irrigation can be done through the natural ostium in 90% of the maxillary cases, 50% of sphenoid and 25% of frontal. In some cases fluid can be made to enter the sinuses by having the patient lie with the head back over the edge of the table, instilling the fluid and using suction (Proetz method) or having him lie first on one shoulder, then the other, with the head hanging to the side (Carpenter method). Uncontrolled cases require surgical drainage.

TREATMENT OF NOSEBLEEDS

Most nosebleeds, especially in young people, arise from the mucous membrane of the lower anterior part of the septum, and are easily controlled by a fairly tight anterior pack of cotton soaked in peroxide of hydrogen. A narrow strip of adhesive across the nostrils will keep it in place. Once the bleeding is controlled, usually one may find one or more erosions of the mucosa, or a tiny ruptured bloodvessel. These may be sealed over gently by applying trichloracetic acid crystals on a slender tightly wrapped applicator which has been dipped in the crystals, which rapidly deliquesce when exposed to air. It is well first to protect the edges of the nostrils with vaselin. A small white superficial eschar is formed which usually holds. 20% chromic acid may be used also on a small applicator, but must be followed by soda bicarb or other alkali, as it tends to go deeper and may cause a perforation of the septum. If you have an electrocautery and a small applicator which may be heated to a dull red only and if you are accustomed to using it, that is preferable to the chemical cautery. None of these should be used unless the source of the bleeding is clearly seen and is accessible without damage to the surrounding tissues. If this technic is not feasible the nose should be packed with oxycel, a styptic gauze, which eventually disintegrates and so requires no removal. Occasionally the bleeding comes from under the inferior turbinate body, or from behind a spur on the septum. Then the packing must be applied accordingly.

Many bleedings will stop spontaneously if not tampered with. The temptation is to do something, which may only result in stirring up more bleeding. Very often a dose of morphine and masterful inactivity make the best treatment.

If the source of the bleeding is inaccessible or if otherwise uncontrollable, pressure packing of the nose must be done. This usually requires a choanal pack against which the nose is packed under some pressure. This may require preliminary sedation; rarely general anesthesia. (1) The simplest technic is to insert half a condom containing a piece of cotton or gauze so large as to fit firmly, and press it back to the choana, using a wooden applicator, an orangewood finger stick or a slender pencil. Then more cotton or gauze is packed against the choanal pack, holding the condom from being pushed into the throat, until the interior of the condom is packed with cotton or gauze in such a way that all the irregularities of the nasal cavity are filled out. The cotton, not being wet, will retain its resiliency.

(2) A catheter with a string through the eye is passed through the nose into the throat; the string is recovered through the mouth, a wad of gauze the size of the end

of the thumb is tied to it and it is withdrawn until it plugs the choana. Gauze is then packed against it, holding the string so the plug is not pushed back into the throat.

(3) A strip of 1½ inch gauze is folded into a wad as large as can be passed through the nose to block the choana: this wad tied with a string which is held tightly while the gauze strip is packed against it, filling all the irregularities in the nose.

The post-nasal pack should not be left more than 48 hours, preferably 36, as the trauma and blocking of the eustachian tube are likely to cause a severe acute otitis media.

NASAL ALLERGY

Of nasal allergy: the best known is the type occurring in late summer and continuing until frost kills the ragweed. It is often complicated by sensitivity to molds and to various foods. With the usual treatment by desensitizing with increasing doses of ragweed, other pollens, molds. house dust, etc. my results have been much poorer than those claimed by others. Occasionally abstinence from some food in addition to the usual injections is more successful. For the perennial type, for which the common cause is house dust, it is important to remove all dust catchers like drapes and rugs, from the bedroom, to change to rubber foam pillows, keep the floors and furniture wiped with oil. In a third of the cases I have had success with injections of 1 c.c. sodium iodide. 1% solution, given 1 c.c. hypo biweekly, later weekly. If this does not work I try 1/1000 solution before giving it up. Locally to the tubercu culum septi and middle meatus, I prefer 20% resorcinol. The treatment is disagreeable and many patients prefer the troubles they have

TREATMENT OF THE EAR

A common cause of deafness is cerumen. The easiest and safest way to remove it is by syringing with water at 99 or 100°. It is more easily removed if first softened by dropping in a detergent such as Dreft which may also be added to the wash water. A 3- or 4-ounce piston syringe is used, or compressed air.

Infections of the skin of the canal may be very painful, and tend to recur. My favorite is an ointment of polymixin bacitracin. Hot applications are used for pain. Furuncles are not incised until "ripe." Usually they open spontaneously. For mild scaling advise to wrap a little cotton around a toothpick, dip it in ordinary rubbing alcohol and wipe the canal. During the acute stage of skin infection Burow's solution on a cotton or gauze pack, kept moist, is excellent.

Acute otitis media usually yields promptly to penicillin. At least 300,000 units should be given the first day. If the drum membrane bulges. due to secretion it should be incised, but most cases subside under penicillin. If sensitiveness to penicillin is known, other antibiotics are preferable. Phenol in glycerin or ethylene glycol, warmed, may be used as ear drops.

Principles of Peptic Ulcer Therapy

Psychotherapy, diet, medication and surgery should always be accompanied by alertness for cancer complications

JAMES F. CRENSHAW, M.D.,* *Birmingham, Alabama*

The primary purpose in treatment of peptic ulcer is to protect the gastroduodenal mucosa from the damaging effects of the acid gastric juice. Excessive secretion of HCl remains in the minds of most authorities as the chief aggressor. In duodenal ulcer hypersecretion seems to predominate, while in gastric ulcer decreased tissue resistance plays a major role. Since there is no satisfactory method of directly improving the mucosal defenses, our best approach is toward the blocking of the hyperacidity factor. It would also seem reasonable that to maintain the general well-being of a patient would be a beneficial factor in increasing his tissue resistance, i.e., by elimination of physical and mental trauma, by dietary discretion and the avoidance of such irritants as tobacco and alcohol. Recently it has been suggested that physical and mental stress may produce a hypersecretion of gastric acid and pepsin by a hormonal pathway involving the pituitary-adrenal tract independent of the vagus nerve or gastric antrum.

If, as is often the case, the patient is maladjusted and frustrated from the physical and mental traumas of life, he must be re-educated to proper adjustment. The causes of tension and unhappiness in his home life, business life, and social contacts should be sought for and re-

* Gastroenterology section of Seale Harris Clinic, Birmingham Assistant Professor of Medicine, Medical College of Alabama

lieved. It is because the brain, as well as the stomach, must be treated, that psychotherapy plays such a significant role in the handling of an ulcer patient. Generally the family doctor can provide all the psychiatric assistance needed.

The dietary schedule of an uncomplicated active duodenal ulcer differs widely from that of the interim phase of an ulcer or a penetrating ulcer, etc. The dietary program increases from the hourly milk-cream mixtures, in the acute phase of the active duodenal ulcer, progressively as the condition of the ulcer improves, until finally three bland, soft meals are given daily with between-meal feedings and a small amount of food upon retiring.

USEFUL MEDICAMENTS

Several antisecretory drugs have recently found their way into the treatment program. These anticholinergic drugs by blocking the function of the parietal cells, presumably, will decrease the production of HCl. For antispasmodic effect atropine sulfate remains one of the better drugs. In dosage 1/120 to 1/150 grain t.i.d. a.c. and q.h.s., it will reduce the volume of gastric secretion and flow of HCl in at least a fourth of the patients with duodenal ulcer. A combination, in capsule form, of atropine sulfate, gr. 1/150, with phenobarbital gr. ¼ given before meals and upon retiring, serves many patients ideally. Atropine and other antispasmodic drugs assist antacid action by effecting a delay in gastric emptying. Dryness of the mouth, blurring of vision, palpitation and tachycardia, and less frequently toxic psychoses, can be avoided by proper dosage. There seems to be no conclusive proof that Trasentine, Syntropan, Bentyl HCl, and Novatrine possess any definite benefit over atropine. Of the newer antisecretory compounds, Pro-Banthine, Pamine and Antrenyl seem to be the most effective. The usual daily doses of these drugs are: Pro-Banthine, 60 to 100 mg., Pamine, 15 to 30 mg., and Antrenyl, 10 to 30 mg., in divided dosage 3 to 4 times daily. Unfortunately, the compounds producing the most effective antisecretory activity produce the most undesirable side effects.

CALCIUM CARBONATE

Calcium carbonate would seem to be the most effective. It is relatively insoluble and does not cause alkalosis, if used in proper dosage 2 to 4 grams every 1 to 2 hours from 7:30 a. m. to 9:30 p. m., and during the night if awake. In certain instances, it may be desirable to awaken the patient if his nocturnal secretion is excessive. Aluminum hydroxide, grams 2 q 2 h. from 7:30 a.m. to 9:30 p. m. and during the night if awake, is also an effective antacid. Sodium carbonate gives rapid relief, but is likely to produce alkalosis over a period of time. In the refractory cases, continuous intragastric drip therapy may be used to advantage.

TREATMENT

In the treatment of an acute, uncomplicated duodenal ulcer, the following program is usually effective: (1) Rest, preferably in hospital, if the ulcer activity is more than mild, for at least two weeks. In certain cases, ambulation may be allowed. (2) Diet. During the first 3 days, hourly feedings from 7:00 a. m. to 9:00 p. m., and during the night if awake, of a 3-oz. mixture of half-cream and half-milk. At 7:00 a. m., 1:00 p. m. and 7:00 p. m. 3 oz. of strained orange juice. If this produces burning, it may be diluted or discontinued. One oz. protein hydrolysate 3 to 4 times daily as supplementary feedings. If no nausea or vomiting belladonna, 10 minims t.i.d. a.c. is begun, increasing daily to physiological effect. A combination of atropine sulfate grain 1/150 with

phenobarbital grain ¼, in capsules form, to be taken t.i.d. a.c. q.h.s. is useful. As a supplement to nutritional needs, multivitamin preparations are given twice daily. After the third day the patient usually welcomes a bland diet with 6 soft feedings daily. Hourly milk-cream mixtures may supplement bland feedings, especially during the night. (3) Antispasmodics: If the patient is vomiting, a hypodermic injection of atropine sulfate gr. 1/150 with phenobarbital grain 1 is given t.i.d. a.c. and q.h.s. Upon cessation of vomiting, this medication may be given by mouth. The new antispasmodic drugs, of especial value in alleviating the pain of active duodenal ulcer. (4) Antacids: Calcium carbonate or Amphojel are the antacids of choice of the author. (5) Continuous night suction may be used in rare cases when the pain is severe. (6) Sedation: Phenobarbital, separately or in combination with atropine during the first few weeks may be discontinued as indicated. (7) Laxative as needed — mild alkaline laxatives are to be employed. (8) Tobacco and alcohol had best be left off. (9) Gastric analysis and x-ray examination are to be scheduled as indicated. (10) Surgery is indicated only when prolonged medical therapy fails. (11) Follow-up studies are to be undertaken in one month and then q. 3 to 6 months as needed.

When a penetrating ulcer is suspected, nothing is to be given by mouth. Glucose and saline, are to be given *IV* as indicated. Atropine sulfate gr. 1/150, with phenobarbital gr. 1 q. 6 hours by hypodermic. For the pain, Demerol (50-100 mgm.) q. 4 h. as needed. Continuous gastric aspiration, usually for 48-72 hours, is of help.

Between the attacks of ulcer activity, physical and mental fatigue are to be avoided, and exercise in moderation taken. The diet should be bland with 3 meals daily, in-between feedings of milk and cream and juice mixtures, and a milk-cream feeding before retiring. Medications are necessary only when indicated for recurrence of symptoms. Alcohol and tobacco should be abandoned. Follow-up studies are advised in six-to twelve months as indicated.

Duodenal or marginal ulcers occur largely in young adults, whereas gastric ulcers appear in middle-aged persons. It is not safe to rely on the location of the lesion in the stomach, the size of the lesion or the age of the patient. Benign ulcers do not undergo malignant degeneration; ulcers found to be malignant were malignant from the start. Many gastric ulcers will heal spontaneously in response to proper dietary measures, bed rest and drug therapy. A month or less of intensive medical management in many cases of gastric ulcer is justified. Some say that 3 of every 4 patients with gastric ulcer will suffer recurrences, the Lahey group reported clinical results in 3 of 4 gastric ulcers with a good rating. The correct diagnosis of benign gastric ulcer is possible in 95% of cases when all diagnostic methods are used. The incidence of gastric neoplasm in patients with chronic recurrent benign gastric ulcer does not exceed that of such neoplasm in the general population. Moderate roentgen irradiation has proved a safe and valuable adjunct to the treatment of benign gastric ulcer. Two to three months of medical treatment may be necessary for complete healing of benign gastric ulcers. Rendering the gastric contents free of HCl will result in complete healing of benign gastric ulcers. In a series of 48 patients treated initially in an urban hospital for gastric ulcer, 8 patients died of verified carcinoma of the stomach; only 11 remained free from symptoms of ul-

cer throughout the follow-up period. Some 13 to 20% of patients operated on for ulcer originally presumed to be benign have a carcinomatous lesion. For continuation of conservative medical treatment, there must be a progressive diminution in size of the gastric ulcer on repeated x-ray examination. A very necessary requirement for discharge of the patient is complete healing of the lesion as evidenced by disappearance in the x-ray with return of the normal flexibility of the gastric wall in the ulcer area. Gastric resection should be strongly considered under the following circumstances: (1) Cancer cannot be excluded, (2) persistence after adequate medical treatment, (3) recurrent hemorrhage, (4) greater-curvative ulcers (usually safer, although such lesions may be benign), (5) delayed gastric emptying from gastric ulcer. The prepyloric lesion must be observed with caution. The medical regimen is very smiilar for gastric ulcer as that for active duodenal ulcer. Follow-up roentgen studies and gastroscopy, if possible, should be undertaken every 10 to 14 days. If the ulcer crater has not decreased conspicuously within 3 to 4 weeks or shown evidence of complete healing in 8 to 10 weeks, surgery is indicated.

COMPLICATIONS

Perforation hemorrhage and obstruction are the chief complications of peptic ulcer. In the event of perforation, immediate surgery is to be performed. Preoperative treatment consists of nothing by mouth, continuous gastric suction, morphine and *IV* fluids. Walled-off, perforated peptic ulcers are generally treated by surgical means as in acute perforation. However, in certain cases, conservative therapy may be the wisest choice.

When bleeding occurs, hospitalization should be accomplished at once. In the absence of vomiting, feeding and antacid therapy are preferable to starvation. The feeding schedule is similar to that used in the first three days of acute, uncomplicated duodenal ulcer management. Should the combination of atropine and phenobarbital be ineffective in controlling the restlessness and discomfort, morphine should be given. Transfusions should be available if needed. If nausea and vomiting continue, *IV* fluids are given until the patient is able to retain the feedings.

SURGERY

Briefly considered, the surgical indications for peptic ulcer are: (1) Gastric ulcer — resection for those failing to respond to adequate medical therapy or those suspected of being malignant. (2) Intractable duodenal ulcer — resection, with or without vagotomy. The usual resection involves approximately 70% of the stomach and aims to remove all of the acid secreting cells possible. (3) Marginal ulcer — vagotomy if no obstruction; resection, with or without vagotomy. (4) Pyloric obstruction — in those cases in which the obstruction is not caused by inflammatory edema and spasm, scar tissue is usually present to the point where surgery is necessary. In the old age group with a low-acid, a gastroenterostomy should be performed, with or without vagotomy. In the younger age group with high gastric acidity, a resection, with or without vagotomy, is the procedure of choice. (5) In massive hemorrhage, especially of the recurrent type, resection, with or without vagotomy, is performed preferably in the quiescent phase. (6) In perforation, immediate simple closure is indicated.

Management of Hay Fever and Allergic Rhinitis with Bacterial Pyrogen

Piromen controls most symptoms of rhinitis and hayfever with no undesirable side effects noted in patients

CHARLES A. LEECH, JR., M.D., *Columbia, Mo.*

Bacterial pyrogens have a long history of value in non-specific therapy as fever-producing agents and have been used in the treatment of a wide variety of diseases. In 1950, the sub-febrile use of such an agent, Piromen,* was reported to be effective in the management of certain perennial allergic symptoms by Randolph and Rollins, and since that time other investigators have reported beneficial responses to sub-febrile doses of the drug in certain types of allergy and dermatitis. No adverse side effects have been noted by those who have reported on its use.

Piromen is a complex polysaccharide prepared by tryptic digestion of a pseudomonas species. It has been shown to stimulate the reticulo-endothelial system and there is evidence that it also stimulates the reticular zone of the adrenal cortex, although its mode of action is not precisely understood. The preparation is sterile, nonprotein, nontoxic and nonanaphylactogenic, and is in colloidal dispersion for parenteral use.

This is a report of the author's clinical experience with Piromen in 36 cases of perennial and seasonal hay fever and allergic rhinitis, which were followed from October, 1951, to October, 1952. In all cases the drug was injected intramuscularly in sub-febrile doses.

*A product of Travenol Laboratories, Inc., subsidiary of Baxter Laboratories, Inc., Morton Grove, Ill.

Thirteen of the patients in the series suffered from hay fever and 23 from allergic rhinitis. Fifteen had had prior therapy under which seven had shown some improvement. Nineteen of the group were treated with Piromen alone; four with Piromen and undenatured bacterial antigen (UBA); five with Piromen and UBA with pertussis; one with Piromen, UBA and an antihistamine; and seven with Piromen and such therapy as liver and thyroid preparations, avoidance diet and nose drops.

The dosage range for Piromen was one to 10 gamma (microgram), although four gamma was most frequently used. Injections usually were given every 4-5 days until symptoms were controlled and then every two or three weeks to maintain control. Each patient seemed to require an individual dosage schedule.

The age range of the series was from two to 71 years. There were 14 men and 22 women. Neither age nor sex seemed to influence the clinical response.

CONCLUSIONS

Of the 19 patients treated with Piromen alone, 16 definitely improved, two showed slight improvement and one failed to improve; of four treated with Piromen and UBA, three definitely improved and one failed to improve; of five treated with Piromen and UBA with pertussis, three definitely improved and two showed slight improvement; the one patient treated with Piromen, UBA and an antihistamine definitely improved; and of the seven who were treated with Piromen and other means, five definitely improved and two failed to improve. In all, 28 patients in the series definitely improved, four slightly improved and four failed to improve.

Of the seven patients who had shown some improvement on prior therapy, six showed further improvement when Piromen was given. In all, of the 15 cases which had received prior therapy, 13 improved on Piromen.

No febrile response or adverse side effect was noted in the series.

The following case histories illustrate clinical observations.

Case No. 1. Man, aged 31, allergic rhinitis. Known allergic to certain foods, chicken feathers and dust of four-years duration. Avoidance measures were impossible in that the patient is a state poultry inspector and continually exposed to chicken coop dust and chicken feathers. He was started on weekly injections of Piromen, four to five gamma per injection, April 1, 1952. After five weeks the injections were reduced to every two to three weeks. As long as the patient continues with the injections he is free from symptoms.

Case No. 2. Woman, aged 46, hay fever of many years duration. Antihistamines had provided considerable relief but the patient had had many reactions to such drugs during the past four years. She was started on four-gamma injections of Piromen May 1, 1952. Injections are given every five to 15 days depending upon the season. Her symptoms have been controlled with greater effect with Piromen than with antihistamines. She also reports that while taking injections her dysmenorrhea has been considerably relieved.

Case No. 3. Man, aged 35, allergic rhinitis of three months duration. He was tested for food allergy and placed on an avoidance diet, and Piromen was started Dec. 1, 1951. He received four-gamma injections every five days for two months with no apparent improvement and the injections were discontinued. The patient is experiencing some relief by remaining on the avoidance diet.

Case No. 4. Woman, aged 29, sea-

sonal hay fever of several years duration. She was seen Sept. 30, 1951 suffering from an acute attack manifested by severe running of the nose and eyes. She was given a four-gamma injection of Piromen and her symptoms were relieved in two hours. She was maintained satisfactorily for the remainder of the season on antihistamines.

SUMMARY

1. Piromen, a pseudomonas polysaccharide, was used in the treatment of 36 cases of perennial and seasonal hay fever and allergic rhinitis.

2. Only sub-febrile doses of this bacterial pyrogen were used, the amount varying from one to 10 gamma per injection. All injections were given intramuscularly.

3. Sixteen of the 19 patients treated with Piromen alone definitely improved. Twelve of 17 patients treated with Piromen and other agents such as undenatured bacterial antigen and pertussis, definitely improved.

4. Neither age nor sex seemed to influence the clinical response.

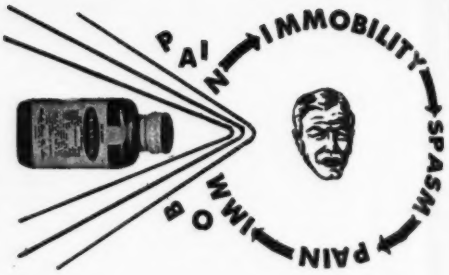
5. No undesirable side effects were noted in this series of patients.

BREAK THE VICIOUS CIRCLE

with

CAUSALIN—

A newly improved anti-rheumatic — *especially indicated for arthritis* — which stops the syndromic merry-go-round of "pain-immobility-spasm-pain."[1]



FOUR REASONS WHY CAUSALIN IS SUPERIOR

1. **CAUSALIN contains Salicylamide** (300 mg.)*, an effective antipyretic[2] with analgesic potency reported to be much greater than that of aspirin and the other salicylates[3, 4, 5, 6, 7]. It is also "considerably less toxic"[4, 8].

2. **CAUSALIN contains Mephenesin** (150 mg.)* a powerful anti-spasmodic.[9]

3. **CAUSALIN contains Calcium Paraminobenzoate** (50 mg.)* which, in synergic union with salicylamide, results in the increased blood concentrations of each.[10, 11, 12, 13]

4. **CAUSALIN contains Ascorbic Acid** (50 mg.)* which compensates for two separate losses of Vitamin C—that resulting from rheumatism, itself, and that from salicyl-administration.[14]

*per tablet

THE MEDICAL VERDICT

(on CAUSALIN'S key elements)

(A) Non toxic **Mephenesin** has "an unusual ability to relax skeletal muscle . . . in spasm"[15,16], promotes "euphoria" and "freedom from nervousness and tension."[17, 18].

(B) "(Salicylamide) has an anti-rheumatic, analgesic and antipyretic effectiveness . . . hardly approached by the other salicylic acid compounds."[3] (For similar evaluations see[4, 7, 19, 20].)

INDICATIONS: Rheumatoid arthritis, osteo-arthritis, rheumatic fever and related disorders.

DOSAGE: For adults and children over 6 years of age: 2 **CAUSALIN** tablets every 4 hours until pain is relieved. Then 1 tablet every 4 hours.

For small children: ½ to 1 tablet in milk every 3 or 4 hours. Then reduce gradually to ½ tablet 3 times daily.

CAUSALIN tablets are available in bottles of 50, 100, 500 and 1000.

Samples and references mailed on request.

AMFRE DRUG CO., INC.
New York 10, N. Y.

An Evaluation of Pronac, a New Approach to Topical Sulfur Therapy

Systemic and local therapy supplemented by the use of Pronac, proved to be of great value in recent treatments of acne problems

MELVIN L. GRAIS, CAPT., M.C., *Fort Carson, Colorado*

The common occurrence of acne and its unsightliness make this disease one of interest and concern to all doctors. The prolonged course and, in many cases, failure of response to treatment, keep us all alert for reports of more efficacious remedial agents. Estrogens have been used[2,3,4] with varying degrees of success. Way and Andrews[5] recommend the use of estrogens only when satisfactory results are unobtainable by other means. Oral administration of estrogenic drugs will give rise to the associated side-reactions of this form of therapy and therefore topical application was investigated. Controlled studies[6,7,8] revealed little or no effect on the course of this disease and the topical application of estrogenic material is considered to be of doubtful value.

The use of thyroid was in vogue in the recent past and there is little evidence that this hormonal material is of any value in treating acne vulgaris in patients having normal thyroid function[9]. Thyroid should not be used indiscriminately and the basal metabolic rate should be carefully watched during its administration. Obermayer[10] felt that a hor-

1. Goldzieher, M. A. *Med. Rec.* 160:725, 1947.
2. Becker, F .T. *Arch. Dermat. & Syph.* 67:175, 1953.
3. Kile, R. L. *Clin. Med.* 61:299, 1954.
4. Crawford, G. M. *Modern Medicine Annual*, 1951, p. 315.
5. Way, S. C. & Andrews, G. C. *Arch. Dermat. & Syph.* 61: 557, 1950.
6. Sawicky, H. H. et als. *Arch. Dermat. & Syph.* 68:17 1953.
7. Shapiro, I. *J. M. Soc. New Jersey* 46:128, 1949.
8. Lunsford, C. G. *Arch. Dermat. & Syph.* 61:557. 1950.
9. Wheeler, C. E. G. *P.* 9:55, 1954.
10. Obermayer, M. E. *Arch. Dermat. & Syph.* 58:64, 1948.

monal imbalance was only indirectly responsible for the development of acne and that a more direct cause was poor utilization of Vitamin A.

Many authors[11,12] have reported some success with large doses of Vitamin A (25,000 to 50,000 units per day), when administered for prolonged periods of time. A period of at least several months is necessary to observe results[13]. However with a disease that has remissions as well as flare-ups, it is difficult to evaluate these delayed effects.

Dietary restriction has undergone many changes. A liberal, well-balanced diet is permitted and generally only those foods high in known potentiating agents, such as fish (iodides) nuts, chocolate, and fatty meats (bacon, pork) are eliminated. Restriction of milk and milk products has also been suggested[14].

Pyogenic infection, while frequently associated with acne, is not a primary factor. The organisms found on the diseased skin is the same as that on normal skin and frequently in the same number. However, resistance to therapeutic attack is dependent upon the degree of infection present. The vaccines, for combating the infectious phase of acne, have now been replaced by the antibiotics. The antibiotics are of value only in stubborn cases of acne with a marked pustular element; the optimal routes of administration are the oral and parenteral. The question of induced antibiotic sensitivity should always be considered when these agents are used.

COMBINATION THERAPY

The best therapeutic results have been obtained where a combination of systemic and local therapy was employed. Local therapy is designed to produce a mild keratolytic action and a drying and astringent effect. Historically, sulfur is the agent of choice. Aqueous or hydro-alcoholic lotions are preferred to greasy preparations. Lotio alba has been used for many years in the local therapy of acne, with a wide variation of clinical efficacy. The product is unstable and must be made fresh[15] before use. This is relatively difficult to achieve because of the instability of the chief active ingredient, sulfurated potash. The polysulfide compound decomposes on contact with air, water and carbon dioxide[16]. Furthermore, the practice of prescribing large quantities of the lotion further reduces the activity through aging and oxidation during use.

TOPICAL SULFUR THERAPY

The recent development of Pronac* appears to solve the problems of treatment of acne. Pronac is a homogeneous compound of sulfurated potash, coated with an inert colloid, and an equivalent of zinc sulfate. When this powder is mixed with water, a lotion is obtained which contains the therapeutic equivalent of freshly prepared white lotion. Since the preparation is mixed just before use, a fresh lotion is available for each application.

A series of 34 patients—22 males and 12 females—whose chief complaint was acne, were treated with Pronac (see Table I). The patients were instructed to prepare the lotion immediately before use and apply to the affected area after vigorous cleansing of the skin. The excess was discarded so that a fresh lotion was used each time. The lotion was used at night and removed in the morning. Good personal hygiene was instituted; otherwise no other medication was used, as a critical evaluation of the drug was to be made.

11. Reque, P. G.: *J. Med. Assn. Alabama*, 12:247, 1949.
12. Fox, E. C. & Shields, T. L. *J.A.M.A.* 140:763, 1949.
13. Kline, P. R. *J. M. Soc. New Jersey* 51:97, 1954.
14. Flood, J. M. *Pennsylvania Med. J.* 51:533, 1948.
15. National Formulary, 9th *Edit., Monograph on White Lotion (Lotio Alba)* p. 568 (1950).
16. Arny, H. V. *J. Am. Pharm. Assn.* 20:1156, 1931.

* ®E. Fougera and Company, Inc.

TABLE I

CLASSIFICATION OF ACNE PATIENTS

TYPE OF ACNE	MALE	FEMALE	SEVERITY OF DISEASE SEVERE	MODERATE	MILD
Vulgaris	13	5	4	11	3
Pustular	8	1	4	4	1
Rosacea	1	6	1	4	2
	22	12			

AGE RANGE: M.—15 to 27 years. F.—15 to 37 years.

The results obtained were most promising—18 of the 34 evidencing a good improvement, 13 of the 34 fair remission of the lesions. Two patients evidenced no change and one stated he was worse. A high degree of local drying and astringency was observed. The conventional 4% lotion proving to be too drying in some of the cases, a lesser concentration was used as indicated.

A fair, blonde patient with sensitive skin is apt to require a lesser dosage than a darker individual. The drying action is variable from patient to patient. These changes of concentration are made easily, through the adjustment of the volume of water to be used. Hydroalcoholic lotions, for greater drying, are similarly prepared by the use of witch hazel or diluted alcohol in place of the water, as indicated. Thus the range of local therapy can be adapted to suit the particular needs encountered.

Because this preparation consists of an anhydrous powder packaged in foil containers, it lends itself to the particular needs of military personnel. The patient may easily pack the medication without the dangers of breakage. The lotion is readily prepared under field conditions by merely adding the desired quantity of water.

It is important to re-emphasize that no single preparation is intended as over-all therapy for acne. Pronac, appears to solve the inherent problems of lotio alba and this makes it a uniformly effective sulfur preparation, but it is certainly not to be considered a "cure." This product when used in conjunction with other procedures offers a sound approach to the conservative management of acne. By attacking the acne problem on the basis of the individual patient needs rather than by the broader generic regimens, a greater degree of success can be achieved.

SUMMARY

1. The complex factors of etiologic significance have suggested many therapeutic agents. No single agent or therapeutic procedure has been found to be effective in every case. Best results have been obtained by the judicious integration of local and general therapy to suit the needs of the individual patient.

2. Pronac, a new polysulfide compound which permits the fresh preparation of a modified white lotion, was evaluated and found to be an effective sulfur preparation producing a good drying and local astringency action. When used in conjunction with other measures, this local action will often do much in the control of this disease.

Healing of a Leg Ulcer After Twenty Years

Stimulation of local circulation, diet and intra-arterial injections brought slow but regular improvement of this disabling affliction

ALBERT FIELDS, M.D., *Los Angeles, California*

Few ills are more discouraging than chronic leg ulcers. It is gratifying to both patient and doctor to help relieve an affliction that has disabled for 20 years.

A 46-year-old bookdealer came to me in September, 1953, because of lower leg ulcers of 20 years persistence and an acute superficial phlebitis and cellulitis of several weeks duration. In 1931, following a bilateral herniorrhapy, the patient developed a deep phlebitis of his left leg. He was treated by bed rest and hot packs for many months. A residual lower-leg swelling and induration extended from the mid-leg medially down over the ankle and onto the foot.

About one year following the operation he accidently struck his ankle and an ulcer developed. This ulcer extended and another ulcer appeared more proximally, and the two, along with lower-leg swelling, increasing induration, pain, itching and ankle and foot stiffness persisted for the ensuing 20 years. There were several flare-ups of acute phlebitis and regional cellulitis. There had been a few brief periods of superficial healing of ulcers with bed rest and various applications, but they broke down again as soon as he became ambulatory.

The significant findings were lower leg and foot swelling with extensive leathery, brownish induration extending from the mid leg over the antero-medial part of the leg and

down over the medial malleolus. There were two deep irregularly oval ulcers; proximal to the malleous; one larger than a silver dollar, the other slightly smaller. Both ulcers were deep and covered with profuse grayish material; the bases hard and brownish-red. Skin temperature, plethysmography and oscillometry indicated only slight impairment of toe circulation. There was, however, definite local impairment of both arterial and venous circulation related to the old occlusion, chronic infection and fibrosis.

The patient was treated by a combination of means aimed to increase this local circulation. Intra-arterial vasodilators, viz: 3.0 cc 2% novocaine with 1.0 cc hydrogenated derivatives of ergot alkaloids; lumbar paravertebral (sympathetic) blocks; indirect heating, and contrast sprays; leg, foot and toe exercises, and manipulations with local light massage. He was instructed in special foot care. Dry dressings covered by rubber sponge and elastic bandages were applied. He was placed on a high-protein, moderately low-fat, high-vitamin C diet, with oral and parenteral supplements.

The lumbar blocks were repeated twice a week, then once a week and then once a month. The intra-arterial injections were repeated daily for one week, then on alternate days for two weeks, then reduced to once a week and once in two weeks. Several types of local applications were tried with little change except production of local sensitivity reactions. Aeroplast spray appeared to be of some benefit but was difficult to keep in place with sponge and elastic bandage pressure.

On this routine there was slow but regular improvement. The smaller ulcer healed first and then the large, deep, distal ulcer. The leg induration gradually decreased and the skin acquired a healthy color and tone. The itching and burning ceased. There was marked diminution of edema — only slight swelling after prolonged standing if the elastic bandage is not worn.

At first the patient was very discouraged, so many treatments having failed over so many years. He was very apprehensive about intra-arterial injections. When these were made with very little pain, with no untoward reactions and with progressive healing of his leg, there was great improvement in his general outlook.

Over a period of five months he was given six lumbar blocks and 25 intra-arterial injections. The dosage of the dehydrogenated ergot was kept constant at 1.0 cc; the novocaine concentration was reduced to 1% then 0.5% and the amount was increased gradually to 5.0 cc, 10.0 cc, and finally 15.0 cc. During the past 5 months he received only one lumbar block and 3 intra-arterial injections. There has been no recurrence of cellulitis, phlebitis or browny induration. The ulcers have remained healed and the improved circulation and good skin condition have persisted.

Intestinal Obstruction

Proper diagnoisis and suggested therapy for strangulated and non-strangulated large or small bowel obstruction

PHILIP THOREK, M.D.,* *Chicago, Illinois*

Since intestinal obstruction is a symptom complex and not a disease, it is not enough to make a diagnosis of "just intestinal obstruction." To approach this problem we have devised a plan whereby we can make an earlier and more thorough diagnosis, and so to institute proper therapy at an early hour. It is necessary to ask and answer four questions:

(1) Is this an intestinal obstruction?
(2) Is it a large or small bowel obstruction?
(3) Is it strangulated or non-strangulated?
(4) Is the obstruction complete or incomplete?

(1) *"Intestinal obstruction?"* expect to find the obstructive triad —distention, obstipation and vomiting — present wholly or in part. Since we have no standard for measuring the distended abdomen, we have decided to utilize the anatomic relationship of the umbilicus to the xiphoid process. The normal abdomen is scaphoid and not flat, hence the umbilicus is normally below the xiphoid. When the umbilicus is on a level with the xiphoid, the abdomen is called *flat;* when above the xiphoid, the abdomen is described as being *distended.* Therefore, when the umbilicus is on a level with or above the xiphoid,

*From the Departments of Surgery, University of Illinois, Cook County Graduate School of Medicine, Cook County Hospital, American Hospital and Alexian Brothers' Hosptial.

some pathologic condition exists. We think of what we were taught in college about the seven "f's"—fat, feces, fluid, flatus, fetus, fibroids and "ph" antom tumors. In almost every case one of the "f's" have been found to be the underlying cause. It is important to record the position of the umbilicus when the patient enters the hospital, and to recheck this every hour thereafter. The umbilicus at first below the xiphoid, and an hour later on a level with the xiphoid, signifies early distention. Regarding *obstipation*, we know that most patients with intestinal obstruction pass neither feces nor flatus, but this may be lacking in incomplete obstruction as for example in Richter's hernia, in which only part of the circumference of the bowel is incarcerated. In such cases the resulting irritation and hyperperistalsis may even lead to a diarrhea which can be most misleading.

Vomiting, will be more thoroughly discussed under question number four. Regardless of the absence or presence of the obstructive triad, it is far more important to elicit the one pathognomonic finding of intestinal obstruction—that *pain and intestinal sounds appear at the same time*. This synchronization of sound with pain differentiates intestinal colic from any other type of intermittent pain. The physician should place his stethoscope upon the patient's abdomen when he states that he is getting his pain, and if it is of an intestinal nature he will hear the rushing bowel sounds at this time.

(2) "*Large or small bowel obstruction?*" the most important differentiating factor here is whether or not there is vomiting. Patients with large-bowel obstructions do not vomit; those having small-bowel obstructions do. We all have seen late cases of large-bowel obstruction with vomiting as a late and not very distressing symptom, but in the small-bowel obstruction vomiting occurs very early. The higher the obstruction the more the vomiting. Utilizing this one fact, we can usually differentiate the small- from the large-bowel obstructions. The term "feculent" is more descriptive than "fecal" since fecal vomiting refers to a gastrocolic fistula or some similar lesion. The flat roentgenogram is used to further differentiate the small- from the large-bowel obstruction. It is unnecessary to stand or turn the patient or to use any contrast media. A picture which can be taken with a portable machine will usually give the desired information. If the obstruction is of the large bowel, the film usually reveals a large distended colon as an inverted "U." The rectosigmoid is the most common location for these lesions. If the obstruction is of the small bowel, the typical paralleling or step-ladder pattern will show. A slow, progressive, increasing constipation speaks for a large oblong bowel lesion, but a sudden violent attack signifies small-bowel pathology. Patients with intestinal obstruction who have had previous surgical operation are small - bowel obstructions until proved otherwise. A two-quart diagnostic enema is also a help. The large bowel can usually retain two quarts of fluid, plus its usual contents. If the bowel cannot take the two quarters, this speaks for a large bowel lesion.

(3) "*Strangulated or non-strangulated?*" can usually be answered by the presence or absence of tenderness. The strangulated lesion has pain plus *localized tenderness*, which is best found by the patient, who will usually locate the exact point of the pathology. Our incision site is usually determined by the location of the patient's tenderness. Another differentiating point: a patient who has a strangulated intestinal obstruction is violently ill and usual-

ly is in shock, whereas such a patient without strangulation does not present such a dramatic picture. The flat roentgenogram may aid in the differentiation. A small-bowel, nonstrangulated, intestinal obstruction presents the typical step-ladder pattern, and the valvulae conniventes are readily seen; a small-bowel, strangulated obstruction presents no characteristic bowel pattern, since the distended loops arrange themselves in whatever portion of the abdomen the obstruction occurs. The valvulae conniventes are not easily detected because of the extravasation of blood into the strangulated loop of bowel and into the abdominal cavity.

(4) "*Is obstruction complete or incomplete?*" a patient with a complete intestinal obstruction passes neither flatus nor feces per rectum, but if the obstruction is incomplete some flatus and feces may be expelled especially with repeated enemas. If *repeated* enemas bring flatus and feces, we assume that the lesion is incomplete; if the returns of the repeated washing are clear, we conclude that the obstruction is a complete one. A "scout" film of the abdomen should be taken when the patient arrives. This immediately reveals the bowel pattern and also determines whether or not flatus is present in the region of the hollow of the sacrum. If no flatus over the sacrum following repeated enemas, we consider the condition a complete obstruction; if flatus continues to come down and appear over the sacral region, the lesion is an incomplete one. A patient with a complete obstruction will appear more ill than with an incomplete lesion.

One may make a proper diagnosis instead of just "intestinal obstruction" by answering these four questions. The case, therefore, may be diagnosed as a large-bowel, nonstrangulated, incomplete intestinal obstruction; or a strangulated, small-bowel, complete intestinal obstruction—depending upon the findings.

TREATMENT

We have devised a plan for the treatment of intestinal obstruction based on the six "s's": suction, saline, sanguine, surgery, sulfa and the "stir-'em" technic.

Suction, or GI siphonage, has done much to lower the mortality of this condition. It has no place in large bowel obstructions nor in cases of strangulation. On the other hand, it may be curative in postoperative ileus, in non-strangulated adhesive obstruction, or in obstruction associated with peritonitis; these are usually small bowel lesions. Its value as a pre- or postoperative adjunct needs no emphasis. To keep a patient with a carcinoma of the rectosigmoid and a large-bowel intestinal obstruction on continuous siphonage is to court disaster.

Saline can prolong the life of a patient with an intestinal obstruction. Chloride ions lost by vomiting or continuous GI siphonage must be replaced, and it is mainly by the use of saline that the patient's chloride balance may be maintained. By restoring this electrolyte balance one is able to put his patient into better condition to withstand surgical procedures, and in this way also to lower the mortality.

Sanguine refers to blood and its derivatives. We feel that the only place for the use of whole blood is in the replacement of lost red cells. We prefer to keep the protein balance for the patient's normal supply of plasma, serum or amino-acid therapy. If the obstruction is associated with blood loss, the fluid of choice is then whole blood. In many cases of strangulated obstructions, or in cases which might necessitate extensive bowel resection, whole blood is preferred. Maintaining a normal protein level permits a patient to properly seal because of his good fi-

brin content. Hypoproteinemia and hyperchloridemia are two conditions which must be avoided in the case of intestinal obstruction as well as in all other surgical emergencies. Too litle protein and too much chloride both produce tissue edema and permit the patient to "drown" in his own body juices. It is because of hypoproteinemia and hyperchloridemia that sutures pull out of edematous tissue. Faulty suturing material is not the cause of intestinal leakage; this is due to poor pre- and postoperative care. The patient's vitamin needs must be maintained, especially the water-soluble vitamins B and C, which he loses readily. Vitamin C is the one which is essential to sound wound healing.

SURGERY IS IMPERATIVE IN STRANGULATION

If a patient has a strangulation he should have immediate operation. The patient will tell us where to make the incision. Complete large-bowel, non-strangulated lesions require immediate colostomy for the release of intracolonic pressure. If the cecum is distended it bulges into the wound, is held in place by two hemostats and an iodoform pack is placed between the cecum and the parietal peritoneum; the patient is returned to bed, and the cecum is opened some 6 hours later after it has had a chance to seal off. Since the bowel wall is edematous and will not retain sutures it is unwise to directly attack an obstructed colonic lesion. For the following ten days or two weeks the patient may be deflated, prepared and then re-operated on. The cecostomy acts as a vent in the event that an intestinal anastomosis is performed.

In strangulated lesions we may be confronted with the question of viablity. Flick the bowel with the finger; if it is able to contract, regardless of the color of the intestine, it is viable. Intestinal obstruction is usually associated with a transudate to the peritoneal cavity; if this is bloody a strangulation is present. Therefore, if a blind cecostomy is done and a sanguinous fluid noted, we must abandon the cecostomy and explore for a strangulated lesion. The type of anastomosis performed is a matter of personal choice.

Sulfa drugs have their place in the treatment of intestinal obstruction, also such allied drugs as penicillin and streptomycin. Following the operation, we place 3 to 4 grams of sulfathiazole or sulfadiazine in the peritoneal cavity and follow this with 40,000 units of penicillin every 3 or 4 hours *IM*. Penicillin will not affect the colon group of organisms, but it will attack streptococci and staphylococci. Sulfadiazine is administered *IV* following the first postoperative day, and streptomycin is coming into its own as the main chemotherapeutic agent against the gram-negative rods. Sulfasuxidine and sulfathaladine will keep the bacterial count low in the intestinal tract if those drugs can be taken by mouth.

By *"stir-'em" technic* we mean early ambulation, active and passive movements and breathing exercises. The beneficial effects brought about by getting patients out of bed as soon as possible have been well proven. It is our plan to have our patients out of bed on the first day, after major surgical operations; however, each case presents an individual problem. Having the patient move about, having him take a few deep breaths every hour, and encouraging arm and leg movements all play their part in lowering the incidence of phlebothrombosis and pulmonary complications, and their sequelae.

Cancer: The Preconditioning Factor in Pathogenesis

Observations show that various forms of Vitamin C deficiency are a systemic exciting factor in the occurence of cancer

W. J. McCORMICK, M.D., *Toronto, Canada*

Cancer (Latin for crab) is a term which has been used from time immemorial to designate an "eating ulcer" of an incurable or malignant nature. Malignancy manifests itself when certain cells, which are apparently normal and have previously functioned normally, begin to grow and multiply in an abnormal way in some part of the body, relentlessly invade the surrounding tissues and extend to other parts of the body by metastasis. The unanswered question is why do these cells behave in this manner?

Of the theories of causation advanced — heredity, embryonic defects, chronic infections (parasitic, bacterial or viral), physical or chemical irritation or injury, etc.—none has got to be more than a theory, as regards most cancers. The major research of recent years is based on the concept that some intrinsic biochemical or metabolic defect in the cell initially involved is responsible for the irregular growth. Accordingly, the major objective in therapy has been to destroy the erratic cell growth by surgical, medicinal or physical means—x-ray, radium, etc.—while little attention has been given to possible metabolic or nutritional etiologic factors.

Cancer of epithelial tissues (carcinoma) may arise from a number of chronic lesions: fissures, moles, senile warts, lupus vulgaris, mastitis, syphilitic or varicose ulcers, ulceration of stomach or bowel, and

burns (x-ray, chemical, thermal or electrical). The most generally recognized exciting cause is chronic irritation, physical or chemical, as in soot causing chimney-sweep's cancer, tobacco tars causing lung cancer, etc.

CANCEROUS TUMORS

Some earlier observers believed that the growth rate of cancerous tumors was determined by the degree of release of restraints of growth, but little was known of the nature of such restraints. According to Berrill,[1] "Cell proliferation is itself primarily a response to changing surface realtionships." He also states that "in general the role of cell division and multiplication in relation to malignancy may have been over emphasized." Thus also Borst[2] concludes that "inflammatory overgrowth results from exaggerated response to external irritants, while cancerous growth arises from loss of normal restrains to growth." Nineteenth-century writers expressed similar views. Ribbert[3] considered cancer cells as having a latent power of unlimited proliferation which became active on their being dislocated from the normal association. Thiersch[4] believed that cancer cells grew unceasingly because the connective tissues had lost the capacity to hold their proliferative powers in check.

The author of this treatise concurs with the concepts of these earlier writers, but goes a step farther and postulates the specific cause of this retentive incapacity of connective tissues.

HISTOLOGICAL STRUCTURE OF SKIN AND MUCOUS MEMBRANE

To better understand the situation a brief review of the histological structure of the skin and mucous membranes may be helpful. The corium, or true skin, being derived from the embryonic mesoderm, consists essentially of connective tissue, containing blood vessels, hair follicles, sebaceous and sweat glands, all of which provide the supporting tissue for the surface structure of epithelial cells. The latter are in stratified arrangement, the lower layer of columnar cells, known as the germinal layer, resting upon "a condensed formation of connective tissue," known as the basement membrane. This latter is comparable in function to the footing of a masonry foundation, any breach of which might result in distortion and disintegration of the superstructure. The difference in this comparison is that the living cells of the epithelium, when they lose their footing, continue their inherent proliferative propensities, without the normal directional limitations of the basement membrane. This membrane normally provides a complete and continuous connective-tissue barrier, underlying the entire epithelium of the skin and mucous membranes of the alimentary, respiratory and genitourinary tracts and all their glandular ramifications, thus constituting an inviolate line of demarkation between the epithelial and mesenchymal tissues. Under these conditions, it is apparent that the stability and continuity of this basement membrane is an essential feature of the anatomical formation. Any breach or disarrangement of this structure could lead to a disturbance in the orderly growth pattern of the epithelial cells, resulting potentially in an inward extension of cell growth through the breach, which is the initial stage of malignancy. Once a break-through is effected by reason of weakness or injury of this connective-tissue barrier, the mesenchymal defense mechanism, under normal conditions.

1. Berrill, N. J., *Physiol. Reviews*, 23:101, 1943.
2. Borst, M., Die Lehre von den Geschwulsten, Vol. 2, 1903.
3. Ribbert, M. W. H., Das Path. Wachsthum, Bonn, 1896.
4. Thiersch, K., Der Epithelialkrebs, Leipsig, 1865.

goes into action to repair the breach by proliferation of new connective tissue to fill the gap with impervious scar tissue, thus preventing erratic inward growth of the disarranged epithelium. If, however, due to faulty metabolic and nutritional status of the subject, this repair mechanism is inadequate or ineffectual, as in chronic ulceration and slow healing of abrasions or lacerations, conditions then become favorable for unobstructed malignant invasion and consequent systemic metastasis.

The most definitely established physiological function of any food substance is that of the role of vitamin C in the maintenance of stability and elasticity of the connective tissues generally and the growth of new scar tissue in wound healing, and this would include the bones, cartilages, muscles, vascular tissues, subcutaneous and submucous tissues.—in fact all tissues of mesenchymal origin. Deficiency of this vitamin results in instability and fragility of all such tissues, by reason of the breakdown or liquefaction of "the intercellular cement substance (collagen), with easy rupture and ineffective healing of any and all such tissues. This would apply to the "condensed connective tissue" of the above-mentioned basement membrane; and its thus-acquired instability and vulnerability is, we believe, the preconditioning factor in cancerogenesis. We now know that this frailty of connective tissues "is brought about through the loss of activation of the constructive phase of the protein-building enzymes, which is normally furnished by vitamin C," — Editorial *J.A.M.A.*, 117: 937, 1941.

The application of this same principle to the pathogenesis of the connective-tissue tumors (sarcomata) may be made in modified form by assuming the possibility of the breakdown of the intercellular cement substance which normally binds together the endothelial cells of the vascular intima and the serosa of the pleural, pericardial and peritoneal cavaties, thus resulting in their erratic and malignant proliferation and dissemination by metastasis. The not infrequent combined incidence of carcinoma and sarcoma, as in carcino-saracomata, is also suggestive of a common etiology.

DISCUSSION

This hypothesis would clarify the observation that metastases of carcinomata travel mostly by the lymphatics, whereas the mesenchymal neoplasms (sarcomata) spread mostly through the blood-vessels. It would also account for the early encapsulation of certain benign tumors (fibromata), thus preventing metastasis. Later, in the event of C-avitaminosis, these same tumors may lose their protective barrier by spontaneous dissolution or by faulty surgery or cauterization, thus releasing their cellullar contents to take on an infiltrating malignant course. Likewise, chronic or indolent ulcers which may have attained closure by cicatrization may break down in later life under accentuated deficiency of vitamin C, resulting in transition to malignancy. It would also explain the relatively benign nature of the scirrhus or hard carcinomata with predominant connective tissue stroma, as contrasted with the medullary or soft variety with predominant cellular composition and extreme malignancy, the vitamin-C status and proportionate connective tissue response determining the degree of malignancy. This hypothesis would also account for the hemorrhagic and ulcerative features of most cancers, since these are also characteristic signs of vitamin-C deficiency.

RELATION OF SCURVY TO CANCER

That physiological instability of

the connective tissues is associated with deficiency of vitamin C is forcibly shown by the classical reports of Lind (1753), Willis (1667) and Poupart (1699) on their findings in scurvy. Lind reports that in autopsies on scurvy victims he found the muscles so lax and tender that they readily fell apart. He found the intestinal musculature in the same condition. He further comments: "Why the scurvy should so frequently, and in so singular manner, affect the cartilages of the ribs, so as sometimes to separate them altogether from their connection to the breast bone . . . I own I am at a loss to account for." He also reported a number of scurvy cases in which old fracture callus and old scar tissue had broken down. (These might have developed cancer if scurvy had not taken them sooner.) In fact, Lind also cites Martini (1609) at stating that "Scurvy is nearly allied to the plague, as it occasions carbuncles, buboes and cancer." Willis, the great English anatomist, of "circle-of-Willis" fame, relates in his Tractus de Scorbuto a symptom which he had observed several times, viz: "A crackling of the bones upon moving the joints. Even upon turning in bed, by rubbing of the vertebrae upon each other, a considerable noise was perceived, like to the rough handling of a skeleton." Poupart, the great French surgeon, whose name is linked with "Poupart's ligament," in reporting his findings in Paris scurvy victims, states: "In some, when moved, we heard a small grating of the bones. Upon opening their cadavers the epiphyses were found entirely separated from the bones, which by rubbing against each other had occasioned this noise. In some we perceived a small low noise when they breathed. In these (post mortem) the cartilages of the sternum were found separated from the bony part of the ribs . . . The ligaments of the joints were found corroded and loose . . . All the young persons under 18 had in some degree their epiphyses separated from the body of the bones."

Lind's observation of the breakdown of old fracture calluses and scar tissue is confirmed by recent research by Hunt,[5] who was first to observe the breakdown of previously-formed scar tissue as the result of vitamin-C deficiency causing liquefaction of the intercellular cement substance. More recently, Pirani and Levenson[6] studied the effect of vitamin-C deficiency on previously healed wounds. Guinea pigs bearing wounds which had been healed for six weeks were subjected to a vitamin-C-free diet for 26 days, by which time severe changes were observed in the area of the scar tissue. These consisted of fibroblastic proliferation, regression of connective tissue elements and hemorrhages (Very suggestive of precancerous changes—W. J. McC.). Billroth, the famous 19th-century Viennese surgeon, recorded a somewhat similar observation. He had expressed the belief that cancer cannot develop without long-continued precancerous changes in the tissue involved. To illustrate this point he cited the case of an epithelioma developing after many years on the site of an extensive scar from an old burn. He, of course, did not correlate vitamin-C deficiency to the connective-tissue breakdown. Bonney,[7] in a study of precancerous changes, found constant loss of connective tissue, usually hyaline changes in the collagen, and fraying of the edges of epithalial cells (Very suggestive of vitamin-C deficiency — W. J. McC.), He states: "In the area of primary carcinoma there has always occurred a complete disappearance of yellow elastic tissue as

5. Hunt, A. H., *Brit. J. Surg.*, 28:436, 1941.
6. Pirani, G. L. and Levenson, S. M., *Soc. Exper. Biol.* (N. Y.), 82:95, 1953.
7. Bonney, V., *Lancet*, 1:1389, 1908.

a result of a pre-existent chronic inflammatory process, and it is in this de-elasticised area that the first epithelial down-growths occur." (Bonney had no knowledge of vitamin C.).

The recorded occurrence of multiple primary cancers (3.7% of all cancerous cases according to U. S. statistics) indicates the presence of a systemic exciting factor. Of 420 such cases reported by Warren and Gates (cited by Ewing), 111 had 3 or more primary lesions, 67 had primary cancer in symmetrical organs, and 242 had primary cancer in two different organs. These findings would indicate that in certain persons there is a predisposition to cancer, which, in the opinion of the writer (W. J. McC.), could well be deficiency of vitamin C.

TOBACCO AND VITAMIN C

Certain observations reported in the recent flare-up of research studies on lung cancer and tobacco smoking seem to indicate a confirming correlation with the hypothesis of the etiologic relationship of vitamin-C deficiency. In a report submitted by the American Cancer Society at the 1954 convention of the American Medical Association, the death rates of 187,000 men between the ages of 50 and 70 were checked for a period of 2½ years against their tobacco-smoking habits. In general it was found that the death rate from all causes was 60% to 102% higher in cigarette smokers than in non-smokers. The death rate from lung cancer was 200% to 1500% higher, depending upon the degree of addiction, and that of cancer in general was 150% higher in cigarette smokers as a whole than in non-smokers. These figures definitely indicate a systemic as well as a local cancerogenic effect from the tar and other toxic elements in the tobacco smoke, and according to the writer's hypothesis this might well be indirectly due to vitamin-C deficiency. In this respect cigarette smoking has a three-fold impact on the human organism: 1) The respiratory mechanism is subjected to direct and repeated exposure to the specific cancerogenic tars of the burning tobacco. (It should be noted that these tars are not found in the tobacco plant, but are solely products of combustion and may be produced as readily in the burning of wood and paper, even cigarette paper, as shown recently by Lafemine.[8]) These tars act locally as an irritant to the respiratory tissues and the stimulate cancerogenous reaction. Furthermore, this irritation, per se, causes local depletion of vitamin C needed in tissue repair. 2) The systemic absorption of the tars and other toxic elements, including nicotine and carbon monoxide, intercating chemically with the systemic storage of vitamin C (the latter being a powerful reducing and oxidizing agent) still further lowers the body level of this vitamin. 3) Smoking distorts the dietary pattern of its habitues, in that they incline to the use of stimulating beverages (tea, coffee, cola and alcohol) in preference to citrus, tomato, and other fresh fruit and vegetable juices containing vitamin C. Thus the intake of this protective food element is reduced, while the body storage is depleted; and since the vitamin is water-soluble and is constantly washing out of the system through the kidneys and perspiration, the body storage soon reaches a very low level.

During the past 15 years the writer has made close to 8000 chemical tests of the body level of vitamin C, and in such tests on hundreds of steady smokers has yet to find a single case showing a normal level unless potent supplements of the vitamin are being taken. Ten years

8. Lafemine, D. J., Report to Am. Chem. Soc., Birmingham, Ala., Oct. 21, 1954.

ago the writer determined by clinical and laboratory research that the smoking of one cigarette by the ordinary inhalation method resulted in the neutralization of 25 mg. of vitamin C in the body, the equivalent of the vitamin-C content of one average-sized orange.[9] Thus the inability of the average smoker to attain a normal body level of this vitamin from dietary sources is evident. This research has recently been confirmed by Bonquin and Masmanno[10] and by other investigators in Italy and Russia. It would thus seem possible that all cancerogenic agents, chemical and physical, act indirectly as such by reacting chemically with or increasing the body requirement of, vitamin C.

A similar interaction has been found between certain chemical cancerogens and riboflavin, which also is known to have chemical reducing action. Kensler *et al*,[11] report marked inhibition of cancer induction by concurrent feeding of riboflavin with a well recognized chemical cancerogen. Later Mueller and Miller[12] found this protective effect of riboflavin to be brought about by a reductive cleavage of the cancerogen, converting it into two noncancerogenic compounds. It would thus appear that riboflavin is synergistic with vitamin C in cancer inhibition.

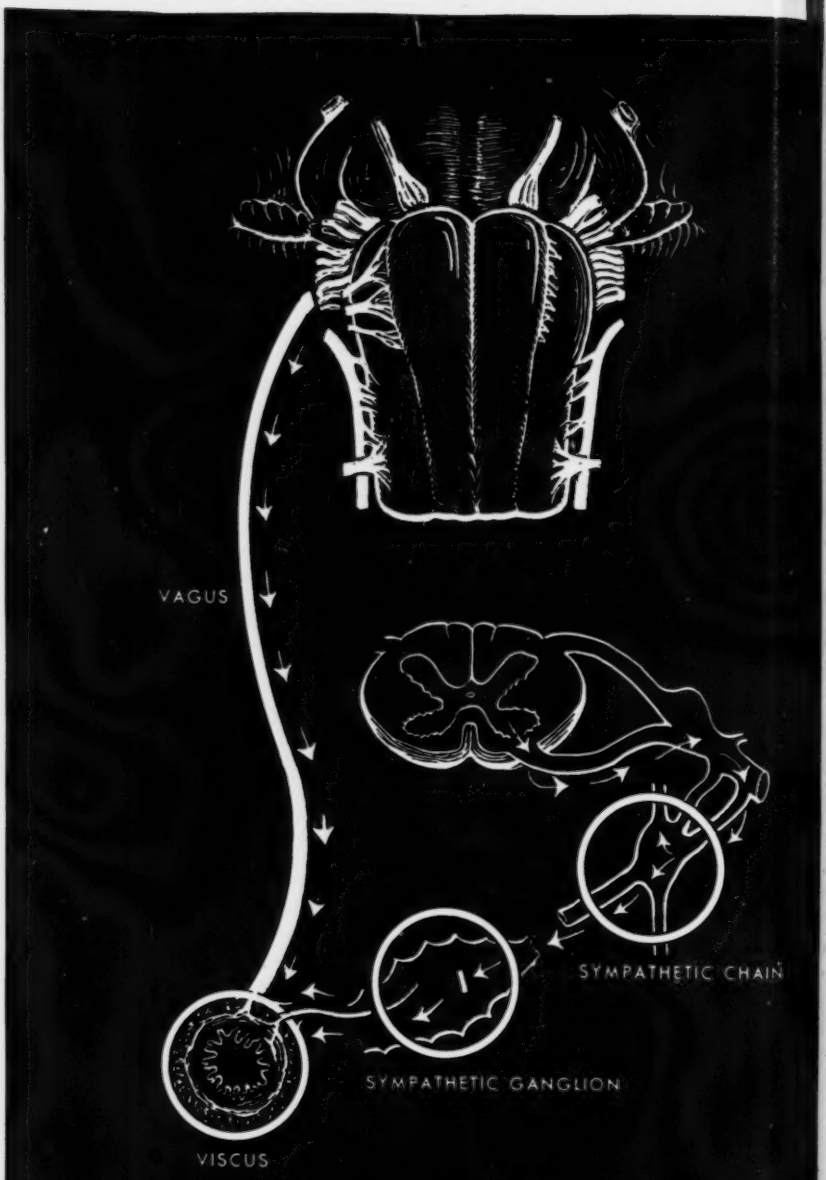
As a further check on this theory of indirect cancerogenesis, the author made an *in vitro* experiment to determine the possibility of chemical interaction of vitamin C and the cancerogens. A small quantity of dibenzanthracine, a cancerogenic constituent of tobacco tar, was added to a solution of ascorbic acid of predetermined strength. A common solvent, dry alcohol, was used. A subsequent titration of the mixture showed a material drop in the ascorbic acid level. Presumably this reaction brought about a proportionate reduction in the potency of the cancerogen. Similar experimentation, *in vitro* and *in vivo*, with other cancerogenic agents is anticipated. A comparable situation has prevailed regarding alcohol. For many years it was thought that alcohol was a specific cause of peripheral neuritis, a common affection in chronic alcoholism; but it is now known that deficiency of vitamin B_1 is the real culprit, the alcohol acting indirectly by increasing the body requirement of this vitamin.

Regarding cancer in infants and children: Lawrence and Donlan[13] say: "It seems clear that several types of embryonic tissue have a high degree of sensitivity to cancerogenic agents. The acute leukemias are an example of disease that may have such an origin. Leukemia seems to be increasing in incidence in recent years, especially in children under 5 years, suggestively due to carcinogenic stimulation in prenatal life." (This suggests a possible correlation with the increase in smoking by women and the indirect production of vitamin-C deficiency thereby in fetal life and early infancy by the mechanism previously described.—W. J. McC.)

All forms of physical and chemical irritation predisposing to malignancy, including trauma, thermal and electric burns, ultra-violet ray, x-ray, radium, atomic fission, chronic infections and inflammatory lesions, or exposure to toxic cancerogenic agents, are known to increase the body requirement for vitamin C, the lack of which increases vulnerability of body tissues to all such agents. Accordingly, vitamin C therapy is effective in minimizing tissue damage in all such conditions,

9. McCormick, W. J., *Arch. Ped.* 69:151, 1952.
10. Bonquin, A. and Masmanno, E., *Am. J. Digest Dis.*, 20:75, 1953.
11. Kensler, C. J., et al., *Science*, 93:308, 1941.
12. Mueller, J. C., Miller, J. A., *J. Biol. Chem.*, 185:145, 1950.

13. Lawrence, E. A., Donlan, E. J., (Indiana University, Medical Center, Indianapolis)



Sites at which Pro-Banthine inhibits excess autonomic stimuli through control of acetylcholine mediation.

PRO-BANTHINE® FOR ANTICHOLINERGIC ACTION

Combined Neuro-Effector and Ganglion Inhibitor

Pro-Banthine consistently controls gastrointestinal hypermotility and spasm and the attendant symptoms.

Pro-Banthine is an improved anticholinergic compound. Its unique pharmacologic properties are a decided advance in the control of the most common symptoms of smooth muscle spasm in all segments of the gastrointestinal tract.

By controlling excess motility of the gastrointestinal tract, Pro-Banthine has found wide use[1] in the treatment of peptic ulcer, functional diarrheas, regional enteritis and ulcerative colitis. It is also valuable in the treatment of pylorospasm and spasm of the sphincter of Oddi.

Roback and Beal[2] found that Pro-Banthine orally was an "inhibitor of spontaneous and histamine-stimulated gastric secretion" which "resulted in marked and prolonged inhibition of the motility of the stomach, jejunum, and colon. . . ."

Therapy with Pro-Banthine is remarkably free from reactions associated with parasympathetic inhibition. Dryness of the mouth and blurred vision are much less common with Pro-Banthine than with any other potent anticholinergic agent.

In Roback and Beal's[2] series "Side effects were almost entirely absent in single doses of 30 or 40 mg. . . ."

Pro-Banthine (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is available in three dosage forms: sugar-coated tablets of 15 mg.; sugar-coated tablets of 15 mg. of Pro-Banthine with 15 mg. of phenobarbital, for use when anxiety and tension are complicating factors; ampuls of 30 mg., for more rapid effects and in instances when oral medication is impractical or impossible.

For the average patient one tablet of Pro-Banthine (15 mg.) with each meal and two tablets (30 mg.) at bedtime will be adequate. G. D. Searle & Co., Research in the Service of Medicine.

---

1. Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25*:416 (Nov.) 1953.
2. Roback, R. A., and Beal, J. M.: Gastroenterology *25*:24 (Sept.) 1953.

SEARLE

thus serving to reduce potential malignancy.

Bodansky et al,[14] studied the vitamin-C level of the blood plasma and the white blood cells in healthy subjects as compared to that of cancer patients. They found the levels in the latter to be significantly lower. Russell *et al*[15] report that recurrent periods of scurvy, interspersed with periods of lettuce-supplementation to prevent death, resulted in a significant shortening of the time of appearance of induced cancer in guinea pigs.

Schneider[16] cites Eickhorn as finding the vitamin-C deficiency of cancer cases very pronounced, averaging 4550 mg. by the saturation method, while his non-cancerous controls averaged only 1350 mg. On the basis of these findings he (Schneider) applied intensive vitamin-C therapy, 1000 to 2000 mg. daily, supplemented by vitamin A, in some hundred early and advanced cancer cases. He reports marked general improvement as shown in reduction in size of tumors, increase in body weight, lowered blood sedimentation rate, delayed cachexia, and reduction in hemorrhage and ulceration. He obtained no complete cures. He considers the results as favorably comparable to sex-hormone therapy in genital carcinomata, with the great advantage that it is at least harmless.

RELATION OF CANCER TO TUBERCULOSIS

Regarding the concurrence of cancer and tuberculosis: Lebert, in 1852, stated that he had many times observed the coincidence of tubercle and cancer. This is so well recognized at the present time that the Index Medicus has a special subheading for "cancer and tuberculosis" under the index listing of "Cancer." The common factor in these two diseases would seem to be vitamin-C deficiency, since both are known to be associated with pronounced C-avitaminosis.

Another suggestively significant observation reported by medical missionaries and in geographic research studies is the finding of large communities of primitive tribes in Africa, South America, Indonesia, and certain islands of the Pacific ocean, to be almost completely immune to cancer. The food supply of all such people is mainly from natural sources, of which fresh fruits and vegetables, rich in vitamin C, form a prominent part.

It is not expected that the development of the author's hypothesis, as herein advanced, will lead to a cure for cancer in its advanced or metastasic stages; but the prospects for prophylaxis and enhancement of surgical and radiation therapy by concurrent vitamin-C therapy seem very hopeful. All agree that "an ounce of prevention is worth a pound of cure."

SUMMARY

After reviewing the history of cancer and the various theories of its cause, the author advances the hypothesis of vitamin-C deficiency, bringing about rupture of the subepithelial connective-tissue basement membrane, as the critical preconditioning factor in pathogenesis. A number of 19th-century writers are cited as relating the cancerous invasion by epithelial cells to weakening and consequent failure of restraint by the supporting connective tissues. The author correlates these earlier concepts with our knowledge of the action of vitamin C and observations of earlier writers on scurvy, and thus evolves this new etiologic approach. A number of research findings are cited which give direct or indirect support to the author's concept.

14. Bodansky, O., *Ca. Research*, 11:238, 1951.
15. Russell, W. A., et al. *Ca. Research*, 12:216, 1952.
16. Schneider, E., Karzinom: *Deut. Med. Wschr.*, 79:15, 1954.

Headache and Sinusitis

There are 1,001 different causes of headache. Of 460 consecutive patients whose chief complaint was headache and wherein sinus trouble was either suspected or assumed:

38% had nothing in history or examination that allowed the diagnosis of any disease.

Neuralgia, 123 cases (27%). A constant finding was pain and tenderness where the 5th nerve made its exit from the skull.

General Systemic, 80 (17%). Hypertension, allergy, influenza, colds, etc.

Vascular, 33 (7%). Migraine 22 cases, histamine cephalgia 11 cases. Typical cases rare.

Intercranial Disease, 19 (4%). Head injury 11, cerebral hemorrhage 3, brain tumor 2, meningitis 2, multiple sclerosis 1.

Sinusitis, 32 (7%).

J.T. King, M.D., Atlanta, *Jl Med. Assoc. of Ga.*, Oct. 1954

in varicose vein complications . . . striking relief of signs and symptoms

MY-B-DEN®

(adenosine-5-monophosphate)

Bischoff DIVISION

ulcers begin to heal[1-4]
pain and burning disappear[1-3]
pruritus subsides[1-4]
edema, erythema, and tenderness decrease[1-4]

Administration: MY-B-DEN may be administered in the office, hospital or home, 1 cc. (20 mg. or 100 mg.) intramuscularly three times weekly or as needed. *The site of injection is the upper outer quadrant of the buttock.*

Supplied: Sustained-Action MY-B-DEN (in gelatine solution): 10 cc. vials in two strengths, 20 mg. per cc. and 100 mg. per cc. adenosine-5-monophosphate as the sodium salt.

Also available: MY-B-DEN (NOT Sustained-Action) in ampules and sublingual tablets.

References: (1) Lawrence, E. D.; Doktor, D., and Sall, J.: Angiology *2*:405, 1951. (2) Rottino, A.; Boller, R., and Pratt, G. H.: Angiology *1*:194, 1950. (3) Boller, R.; Rottino, A., and Pratt, G. H.: Angiology *3*:260, 1952. (4) Pratt, G. H.: Surg. Clin. North America *33*:1229, 1953.

AMES COMPANY, INC • ELKHART, INDIANA

Diagnosis by the Hand

Color, temperature, restlessness and the shape of the hands indicate the physical condition of the patient

J. J. SILVERMAN, M.D. *Staten Island, New York*

The handshake can be highly informative. The flabby, cold, wet hand of the neurotic is unmistakable; so is the firm handshake of health and vigor. In a handshake the information exchanged is reciprocal. A patient's confidence in a physician can be established quickly by the latter giving a friendly but firm handshake.

It is always pertinent to emphasize time-honored diagnostic methods requiring only observation.

Under normal conditions the outdine of the fist and the orthodiagraphic silhouette coincide, a small fist generally indicating a small heart.

Excessive palmar sweating is striking in neurocirculatory asthenia.

In an anxiety state the hand is apt to show tremor of large amplitude. In contrast to the warm, flushed hands of hyperthyroidism, those of patients with neurocirculatory asthenia are cold, cyanotic and mottled. Tobacco-stained fingers, with short, chewed-off fingernails stigmatize the neurotic. Tense persons are likely to have restless, fidgety hands, and this may be reflected in handwriting.

Cyanosis and clubbing of the fingers have long been as traditional signs of *congenital* heart disease, yet clubbing is *never present at birth* and is very rare before the age of 2. If clubbing is present without cyanosis in a child suspected of having congenital heart disease, a noncardiac explanation for the clubbing should be sought. Clubbing is generally proportional to the degree of cyanosis and reflects the degree of polycythemia. For some unknown

reason clubbing appears first in the index finger and thumb.

When congenital heart disease is suspected, it is axiomatic to look for associated congenital anomalies. The incidence of congenital heart disease in mongolism is close to 25%. The hand is often distinctive, appearing fat and flabby, fingers short and cone-shaped, and the second phalanx of the little finger is rudimentary.

OSLER NODE AND JANEWAY LESION

In subacute bacterial endocarditis diagnosis is occasionally established solely on the finding of the Osler node, a small, raised, tender, red nodule the size of a pea, located in the pads of the fingers, in the thenar or hypothenar eminences and rarely on the sides of the fingers. This nodule lasts only a few days and, according to Libman, is pathognomonic of subacute bacterial endocarditis. The Janeway lesion is a small, erythematous patch located in the palm in contrast to the Osler node. the Janeway lesion is never painful.

Trophic disturbances, petechial hemorrhages and embolic phenomena, common in subacute bacterial endocarditis, may be confined to the hand. Clubbing of the fingers is still considered a hallmark of subacute bacterial endocarditis. With recovery clubbing of the fingers often recedes and may completely disappear.

PALLOR AND PIGMENTATION

It is not sufficiently appreciated that a simple clinical method for estimating the degree of pallor exists in the observation of the color of the palms. According to Wintrobe, this site is more reliable for judging pallor than the mucous membranes or conjunctivae. Carefully observe the skin creases across the palm, when the normal red color is lost the hemoglobin is usually below 7 gm. (45%).

In hypothyroidism the hands are dry, rough and cold; the palms sallow. A cretin's hand is underdeveloped. The hands in acromegaly are large, broad, and appear generally coarse and swollen, the fingers short, and the distal phalanges present a mushroomed, spade-like appearance, the skin and nails are overdeveloped. An occasional early manifestation of Addison's disease is hyperpigmentation about the knuckles, seldom affecting the palms, with the exception of the creases and folds. Small areas of intense pigmentation resembling freckles, or moles may appear on the back of the hand, accompanied by yellowish discoloration of the nails.

SHOULDER-HAND SYNDROME

A disabling complication of myocardial infarction is the shoulder-hand syndrome, initially a great deal of pain, stiffness and limitation of motion of the shoulder joint and girdle, usually the left, followed by finger joints becoming stiff, swollen, painful and deformed. Changes in hands, especially the left, are skin pink or red in the early stages and later cyanotic or pale, still later smooth, glossy and cold. In the advanced stage atrophy of the subcutaneous tissues and intrinsic muscles, and contraction and thickening of the palmar aponeurosis leading to Dupuytren contracture.

Xanthomatosis is important because of the high incidence of coronary-artery disease in this disorder. Gout tophi may appear around the joints and tendons of the hands. Vascular skin lesions in the palms and fingers may occur with hereditary hemorrhagic telangiectasia. It is important to recognize this disorder, which may be the basis of unexplained hemorrhage from various sites.

Pellagra erythema is an early sign, confined chiefly to the dorsa of both hands and rarely extending higher than the wrist line. In severe malnutrition, the fingernails appear dull,

dry and brittle and are often studded with pits and ridges.

The hands are frequently involved in the diffuse collagen diseases. Frank arthopathies with rheumatoid features in the finger joints may occur.

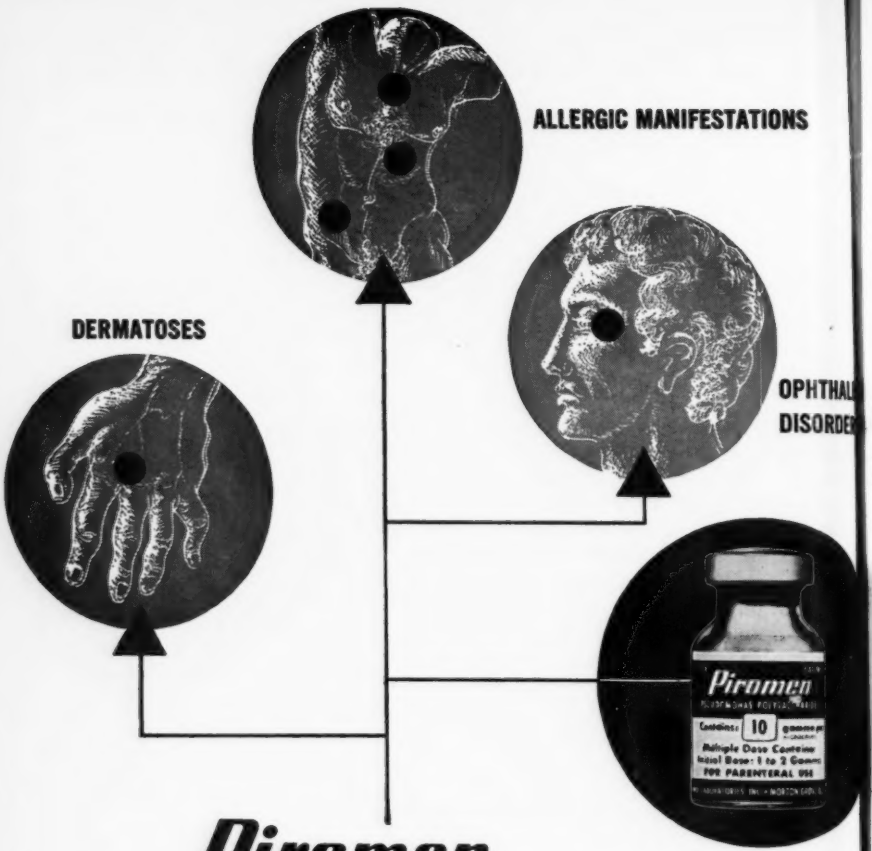
In advanced congestive heart failure the hands are invariably cold; the veins on the dorsum are engorged, and the fingernail-bed cyanotic. The color and temperature of the skin of the hands may yield more information of impending shock than the pulse or blood pressure. Indeed, a warm, pale hand abruptly changing during the course of an illness to a cold, deeply colored cyanotic appearance is dramatic evidence of peripheral circulatory failure.

New England J. Med. 249:839, 1953.

Middle-Aged Man's Mortality

Coronary thrombosis, cancer of the lung and duodenal ulcer are the diseases of modern civilization. A man's chances during his middle age of suffering from coronary heart disease are 9%; from cancer of the lung 3%; from duodenal ulcer 4%. About 30% of 35-year old men now die before they reach 65, compared with about 20% of women in the same group. In the last 25 years in Britain the number of persons over 70 increased from 1,500,000 to 3 million, but of the extra 1,500,000, one million are women. Coronary thrombosis and cancer of the lung, which women seem to escape, are diseases of middle-aged men. Physically active persons, such as bus conductors, had only half the mortality from heart disease of their less active counterparts, such as drivers or telephone operators. Middle-aged married women are usually more active physically than their husbands who do sedentary work.

Foreign Letters, *J.A.M.A.*, Aug. 28, 1954.



Piromen®

(PSEUDOMONAS POLYSACCHARIDE) is proving effective in the control of a wide variety of allergies, dermatoses, and certain ophthalmic disorders. When injected, it produces a leucocytosis and initiates generalized activation of the reticulo-endothelial system. Supplied in 10 cc. vials containing either 4 or 10 gamma (micrograms) per cc., ***Piromen*** may be used safely within a wide dosage range.

For a comprehensive booklet detailing the use of this effective therapeutic agent, merely write ***"Piromen"*** *on your Rx, and mail to—*

Manufactured by **TRAVENOL LABORATORIES, INC.**

a subsidiary of BAXTER LABORATORIES, INC., MORTON GROVE, ILLINOIS

The Non-Specialist in the Care of Allergic Disease

Cooperation between the family physician and the allergist is stressed; drugs frequently cause allergy

S. M. FEINBERG, M.D., *Chicago, Illinois*

The internist, G.P. and pediatrician should undertake the care of most cases of urticaria, hay fever and asthma. It is the family physician on whom the patient must depend when he has an acute allergic illness. The G.P. and allergist should regard themselves as true associates in the care of the patient. The allergist must see that the cooperating physician is fully informed about the findings and the rationale of treatment. Each must have confidence in the other. Under these favorable conditions the G.P. need not fear the loss of practice when he refers a patient to an allergist. In many instances he continues to care for his patient, but even where he cannot or does not wish to do so, the successful outcome results in ultimate gain to the referring physician.

Recognize the role of many drugs in the causation of allergic manifestations. Some gastrointestinal manifestations are due to food allergy; pollen and molds cause the majority of seasonal hay fevers; the asthmatic child will not "outgrow" the asthma.

The history in some instances is far more important than any other diagnostic procedure.

The scratch test is safer more often significant and less painful. The intradermal test is more sensitive, less reliable, more painful and may be hazardous.

PENICILLIN

It is advisable that the administration of penicillin in those who have had it previously be preceded by a scratch test. If negative an intradermal test (10 to 100 units to 1 c.c.) may be used. If the test is positive the use of penicillin is hazardous.

In spite of their capacity to produce allergy most drugs do not give positive skin tests.

Adrenalin is the best remedy for an allergic emergency. But it is of little use in serum sickness, where antihistamines are preferable; they are useful in the itching dermatoses and in allergic rhinitis; their effect in asthma is negligible. The iodides are still an excellent remedy in persistant asthma.

DESENSITIZATION

Removal of the specific cause should be the objective whenever possible. Desensitization should only be given for inhalant or contactant allergy. Pollen, molds, and house dust are the chief antigens used in desensitization.

The allergist is needed for the diagnosis and therapeutic guidance of the difficult cases. The non-allergist must handle the numerous ordinary cases of allergy and must learn how to prevent and manage the allergy arising from drugs. The non-specialist is indispensable in carrying out management outlined by the specialist. With reasonable effort it is possible for the non-specialist to equip himself for this task and duty.

Arizona Med., 10:354, 1954

Mental Compromise and Senescence

Insecure surroundings provide great obstacles to the reduction of mental disease in elderly patients

J. R. WILLSON, M.D., *Philadelphia, Pennsylvania*

From June 1, 1930, to May 31, 1931, the Allentown (Penn.) State Hospital admitted 508 patients; 14.5% were over 60, 3.9% over 70. For the year June 1, 1951 to May 31, 1953, there were 472 patients admitted, 26.6% over 60, 10.9% over 70.

On individual, family, and social planes, the older mental patient is difficult in or out of institutions. Even if these patients have these mental patterns, are they mentally ill? Are aging and mental disease parallel changes? Some authorities say that a higher percentage can be taken care of at home. Frequently patients whose symptoms seem impossible of solution in the private home are admitted to mental hospitals and the symptoms clear up in a few days or weeks in the new surroundings. Often these patients can adjust themselves to institutional routine with little, if any, difficulty. Is this due to injudicial therapeutic efforts at home (bromides, excess digitalis, alcohol, starvation?), or is their removal from irritating circumstances at home a factor? Some have found it wise to advise a period of observation of several days prior to formal admission. Many of the psychogenic incitements subside readily with the opportunity of sending the potential patient back as a normal home dweller.

How should these patients be handled? The following are considered essential:

1. Good general hygiene.
2. A full and compensating diet

fortified by those substances dictated by general or pathologic deficiencies.

3. Comprehensive medical surveys at definite intervals.

4. In-patient active medical direction to ambulatory and bedfast patients.

5. Prophylaxis from exposures to infection, injuries, and factors promoting additional debilitation.

6. Habit training — going to the bathroom regularly, feeding, bathing, and the routine of the same regularity used in child training, adjusted to the older type.

7. Fresh air, sunshine, and mild exercise.

8. Rest.

9. Occupational therapy, preferably in groups, but not neglecting the individual, in reading, sewing, minor carpentry, rug making, radio and television, etc.

10. Religious services and provisions for spiritual guidance as requested.

In the higher years, the psychoses seem to be closely related to age's pathologic conditions in insecure surroundings. Probably the preservation of deep family ties is the greatest obstacle to the inroads of mental disease in the higher years. Such approaches imply family debt, an obligation which, if neglected, promotes guilt reactions. On the contrary, meeting such responsibilities promotes a realistic transition through the generations with a reduction in the incidence of mental disease.

Pennsylvania M. J. 57:53, 1954.

Use and Abuse of Antibiotics

Selection of the most effective antibiotic presents little difficulty, but care must be taken to avoid toxic effects

ERWIN NETER, M.D., *Buffalo, New York*

Diseases which 20 years ago almost invariably were fatal, such as meningitis, subacute bacterial endocarditis, and many others, can be cured more often than not by the appropriate antibiotic. Whooping cough, which caused the death of 25% of infants under two years of age, is no longer the dreaded disease it was just a few years ago. Serious complications, rare now because of antibiotic treatment of the primary infection, are empyema and mastoiditis. Specific agents are available for typhoid fever, tuberculosis, rickettsial diseases including typhus fever, and many other maladies.

We are still lacking agents curative in diseases caused by the true viruses, such as influenza, measles, poliomyelitis, encephalitis, infectious hepatitis. Toxic effects are caused at times by certain antibiotics; patients may be, or may become allergic to some antibiotics; and antibiotics used for the treatment of certain infections may be responsible for the development of so-called superinfections, partly because the antibiotic is ineffective against the secondary pathogen and partly because the antibiotic may suppress certain normally-present microorganisms; an event, which, in turn may facilitate the multiplication of the secondary pathogen. Antibiotics, particularly streptomycin, may contribute to the emergence, and thus to the dissemination, of antibiotic-resistant bacteria.

SELECTION OF THE BEST ANTIBIOTIC

Selection of the best antibiotic is easy in many instances. In many cases correct diagnosis may be made on clinical grounds; often laboratory examinations are essential, e.g., of the spinal fluid to ascertain whether meningitis is due to the meningococcus, influenza bacillus, streptococcus, or pneumococcus. It is impossible to carry out bacteriological procedures in every case of infectious disease. The doctor must recognize the cases in which recovery depends on early and appropriate therapy.

In meningitis of early infancy there may be no fever and no classical meningeal signs. Sepsis in the newborn may be afebrile. A few petechiae in the beginning of an infectious disease should suggest the possibility of a meningococcal infection; in such a case a delay of hours may be fatal. A diagnosis of meningococcal meningitis suggests sulfonamides and/or penicillin. Meningitis due to H. influenzae requires chloromycetin or terramycin with a sulfonamide, that due to pneumococcus very large doses of penicillin. For typhoid fever chloromycetin; for tuberculosis a combination of streptomycin and isonicotinic acid derivatives; for rickettsial diseases aureomycin or terramycin.

In a number of infections bacteria vary in sensitivity to various antibiotics from strain to strain and from year to year. In the beginning of the penicillin era the majority of strains of staphylococci were sensitive to this antibiotic, now 50% or more are highly resistant. Fortunately, for the treatment of resistant staphylococcal infections a erythromycin is now available. Erythromycin is potent against strains resistant to many other antibiotics also. Whether they will become resistant to erythromycin remains to be seen. Gram-negative bacilli, *Esch. coli, Aero. aerogenes* and others vary from strain to strain in their sensitivity to different antibiotics. All strains of Group A hemolytic streptococci, pneumocci, and gonococci are sensitive to penicillin.

In vitro determination of sensitivity of various pathogenic bacteria is indicated for organisms of susceptibility to various antibiotics from strain to strain. Two principle methods are the tube-dilution method and the disc method. So many factors complicate the results of this disc test that the laboratory should report only whether the strain is sensitive or resistant. If used in this fashion, this test can be of real value. The tube-dilution method yields far more accurate results. However, many laboratories lack the facilities for performing the tube dilution method routinely.

ERYTHROMYCIN

Erythromycin resembles penicillin in being effective against gram-positive bacteria and largely ineffectual against many gram-negative. This antibiotic has its greatest usefulness in penicillin-resistant staphylococcal infections. The use of injectable erythromycin cleared up promptly an outbreak of impetigo among newborns, which had failed to respond to penicillin.

TETRACYCLINE

Tetracycline, under various names, as achromycin and tetracyn may be used whenever either aureomycin or terramycin is indicated. Neomycin appears to be of particular value in the preparation of patients for G.I. surgery and in the treatment of infectious gastro-enteritis of infants.

Orally 4 to 5 times as much penicillin should be given as by needle. An amount of penicillin adequate for

scarlet fever or pneumococcal pneumonia is quite insufficient for streptococcal or pneumonococcal meningitis. Progress is being made in the search for *IM* injectable broad-spectrum antibiotics, terramycin is now available in such a form. The combination of penicillin and streptomycin frequently more efficacious than either alone. Combination therapy is indicated in case one antibiotic may not be effective against *all* pathogens present, e.g., peritonitis following appendicitis.

Antibiotics are valuable also in the prophylaxis of certain maladies. Early and adequate treatment of pneumonia prevents empyema; of otitis media prevents mastoiditis. meningitis, and brain abscess; of osteomyelitis prevents complications requiring surgery. They have been used with success in the prevention of venereal disease. Most important is antibiotic prophylaxis of rheumatic fever. Any patient who has had one attack of rheumatic fever should be given either sulfonamides or penicillin as a prophylactic measure against hemolytic streptococcal infection and therefore against another attack of rheumatic fever. The prophylactic regimen should be carried out for at least 5 years following an attack of rheumatic fever or until puberty. Whenever surgical procedures are contemplated on a patient with congenital heart disease or who has had rheumatic fever, it is wise to administer penicillin before and after. The family physician has great opportunity to make sure that these measures are taken.

Penicillin is fundamentally devoid of primary toxicity. Streptomycin toxic effects, resulting in deafness, can be largely prevented if dihydrostreptomycin is used for short-range treatment, up to 3 months, and streptomycin for long-range treatment; or if a combination of these compounds (one-half of the indicated dose of each) is employed.

CHLOROMYCETIN

Chloromycetin remains the drug of choice in typhoid fever, and we continue using it with success in meningitis due to *H. influenzae* and certain other bacterial infections of children which do not respond readily to other antibiotics. We have employed, without serious side-effects, the injectable form of chloromycetin in more than 150 infants and children.

The indiscriminate use of penicillin and other antibiotics may result in undue sensitization of individuals who later may be in dire need of these antibiotics. Should a patient be allergic to penicillin G, and require penicillin, it is advisable to use penicillin O, since some patients are not sensitive to the latter preparation, although they are to the former.

Following the use of a given antibiotic an infection may develop which was not present at the initiation of therapy. If diarrhea develops during or following antibiotic therapy, every effort should be made to determine whether or not staphylococci are the cause. If so, discontinue the antibiotic and employ the one, that, more often than not, is effective against this microorganism, namely erythromycin.

Virginia Medical Monthly, 81:355, 1954

des

RECORDS *highest* FETAL SALVAGE

With **des** routine, Gitman and Kaplowitz[1] obtained 15 live births from 17 women with histories of one abortion — 88%.

And 3 live births from 3 women with histories of 3 abortions—100%—concluding that **des** is the "drug of choice" in these complications of pregnancy.

Ross[2], with similar **des** routine, brought all of 36 cases of threatened abortion successfully to term 100%. He concluded that "**des**, together with the recommended technique of its administration" is "the method of choice in the treatment of threatened abortion."

Karnaky[3] by the use of massive **des** dosage totalling 30 grams obtained living term infants from a woman who previously had six abortions — and a living infant by using 77 grams of **des** in a woman who had 13 previous abortions.

des 25 milligram tablets — highly micronized, triple crystallized diethylstilbestrol U.S.P. (Grant Process) — dissolve within a few seconds and are uniformly absorbed into the blood stream.

des 25 milligram tablets are available in containers of 30 and 100 tablets.

NOW AVAILABLE

NEW des potencies for massive dosage therapy.

des 50 mg. micronized diethylstilbestrol tablets

des 100 mg. micronized diethylstilbestrol tablets

REFERENCES:

1. Gitman, L., and Kaplowitz A.: Use of diethylstilbestrol in complications of pregnancy. New York State J. Med. 50:2823: 1950.
2. Ross, J.S.: Use of diethylstilbestrol in the treatment of threatened abortion. N. Nat. M.A. 43:20, 1951.
3. Karnaky, K.J.: Am. J. Obsts. & Gynec. 58,622. 1949.

For further information, reprints and samples, write Medical Director

GRANT CHEMICAL COMPANY, INC.

95 MADISON AVENUE, NEW YORK 16, NEW YORK

Possible Injurious Effects from Diagnostic Fluoroscopy and Roentgenography

Essential precautions frequently are neglected due to careless or inefficient operation of the x-ray equipment

---

J. M. IVIE, M.D. *Nashville, Tennessee*

The wide-spread use of the x-ray in general practice has caused concern to many. The number of physicians who have had no experience in dealing with the hazards of radiation and have purchased x-ray machines is appalling. The carelessness of physicians experienced in the use of x-ray is also disturbing.

The two basic considerations in diagnostic radiology are: (1) the effect on the patient, and (2) the effect on the operator. The 3 anatomical systems most apt to suffer from excessive radiation are: (1) cutaneous, (2) hemopoietic, and (3) reproductive.

The radiation effect on the skin of patients from diagnostic fluoroscopy and roentgenoscopy is usually inconsequential. If the mechanical safety precautions are not closely adhered to, the skin of the patient may be the site of a radiodermatitis and possibly squamous carcinoma. Naturally, a fluoroscope operated at proper voltage and milliam-perage and with proper filters delivers to the skin of the patient 6 *r*/m, a safe amount if the patient is not frequently subjected to fluoroscopy. Many fluoroscopes found in private physicians' offices had outputs of 90 to 100 *r*/m. Only a few minutes of exposure could cause serious skin reactions. Long and multiple examinations should be avoided as far as is practicable. Since few patients

are exposed chronically to radiation, the hemopoietic and reproductive systems seldom receive enough radiation to give us concern.

Most important are radiation hazards to physicians and other operators of the machine. Most physicians are well aware of direct beam danger and stay away from it. It is scattered radiation, mostly from the patient through whose body the x-ray beam is passing, which is responsbile for the chronic exposure to radiation.

80 doctors entered the Mayo Clinic 1934-1939 complaining of "radiodermatitis" — of the hands in 70. Of these 21 had epitheliomas and 9 had benign ulcers. There were only 5 roentgenologists in this group, 2 of these had been injured while receiving treatment. The great majority of the injuries in the entire group were from fluoroscopy.

The great majority wore no gloves or protective device and in some instances used fluoroscopy for reduction of fractures and for search for foreign bodies, both strongly condemned as is any procedure during which the physician is exposed to the direct beam.

The following precautions are essential to those who deal with fluoroscopy:

1. Proper calibration of the equipment with a clear understanding of the factors which are necessary to maintain safety.
   (a) Restriction of the tube current to 4 ma. or less.
   (b) Maintenance of tube to patient distance of 16 to 18 in.
   (c) Inclusion of 3 mm. of aluminum filtration.
   (d) Restriction of the size of the field of irradiation to not more than 8 x 10 in.
2. At least 15 min. of adaptation to darkness before fluoroscopy.
3. Speed during the examination.
4. Use of leaded gloves and aprons (lead quivalent of 0.4 to 0.5 mm.)
5. In GI work use the barium-filled viscus as a protective barrier.
6. Keep hands out of the field as much as possible.

The precautions in diagnostic roentgenography are similar to those in fluoroscopy. Leaded barriers between personnel and equipment is essential. Personnel should never expose themselves to the direct beam by holding patients or cassettes. By far the most important is proper knowledge of the basic principles of radiation and training in their application. A physician who is going to use x-rays must take the time to learn the facts which were discovered by pioneers at such cost.

J. Tennessee M. A., 47:357, 1954

Avascular Necrosis of the Phalanges of the Hands

Four probable and 18 possible cases of avascular necrosis of the phalanges of the fingers (Thiemann's disease) occurred in members of 6 generations of one family. The condition produces a fusiform swelling of the metacarpo-phalangeal and proximal and distal interphalangeal joints and shortening of the distal phalanx. The onset in each patient was between the ages of 10 and 15 and was manifested initially by slight pain. This disorder has resulted in no marked constitutional symptoms and very little incapacity.

E.W. Shaw, M.D., *Jl A.M.A.*, Oct. 16, 1954.

Selection of Patients for Gynecologic Surgery

Medical therapy is advised for the majority of gynecologic treatments. Surgery is often ineffective

R. W. GOSHORN, M.D., *Hollidaysburg, Pennsylvania*

The terms gynecology and pelvic surgery are not synonymous, for the greatest part of gynecologic treatment is medical and is administered in the office. Many commonly performed pelvic surgical procedures do not relieve the conditions for which they are designed. Patients with pelvic symptoms treated in the office by local therapy to the lower genital tract, by antibiotic or endocrine preparations or by correction of extra-pelvic conditions should be far more than those sent to the hospital for operation.

FIBROMYOMATA

Most uterine enlargements are due to fibromyomata growing in the uterine wall. Their removal to prevent cancer is unwarranted. Unless they press upon some adjacent structure or undergo a degenerative change they produce no pain even though they grow to great size. Increased uterine bleeding will be brought under control automatically by the cessation of ovarian function at the menopause. Most fibromyomata are small and asymptomatic, and need no treatment. Pain due to pressure or degeneration, bleeding enough to reduce the hemoglobin, a rapid increase in size of the tumors or a total mass larger than a uterus at the 12th week of gestation suggest the need for treatment. A history of amenorrhea and a softened cervix and lower uterus will suggest pregnancy even though the uterus is

greatly enlarged by multiple fibroids, and the diagnosis must be clarified by means of a pregnancy test. Endometrial cancer may be present in a uterus enlarged by fibromyomata, but cancer alone can be difficult to differentiate from myomata. Irregular periods and intermenstrual bleeding are more suggestive of cancer than of fibroids. A diagnostic curettage must be performed.

Cancer as a cause of irregular bleeding must be eliminated by uterine curettage and cervical biopsy if the patient is to be followed without treatment.

OVARIAN TUMORS

Ovarian neoplasms occur infrequently, but the high mortality makes early recognition important. Ovarian tumors are symptomless until they reach a large size. Pain is usually the result of an accident, such as torsion of the pedicle or hemorrhage into the cyst. Small "cystic" ovaries almost always are normally functioning structures.

An understanding of ovarian physiology should reduce the incidence of removal of the ovary. Prompt operation is suggested, however, if the ovary is 5 cm. in diameter, particularly if a solid growth.

URINARY CONTROL

Many women have decrease in vaginal-wall support, or even hugh cystoceles or rectoceles, with almost no symptoms. Therapy ordinarily is necessary only if the patient is uncomfortable. Bladder-wall and bladder-neck relaxation may be associated with urinary frequency, urgency, stress urinary incontinence or episodes of repeated urinary-tract infection. Urinary incontinence may be due to loss of sphincter control, to urinary-tract fistulae or to a neurologic lesion producing an autonomic bladder, and it is important to determine the exact cause before treatment is considered. In the absence of marked descensus of the bladder and uterus, systematic exercises of the pubococcygeus muscles may improve urinary control remarkably.

SURGICAL INTERVENTION

Surgical procedures should constitute a minor portion of a gynecologic practice because most gynecologic conditions can be cured without operation and in many surgical therapy is contraindicated. The presence of fibromyomata, minor ovarian enlargements or pelvic relaxation, is not always indicative of the need for surgical therapy. Unless the lesion is proved to be causing symptoms or is found on repeated examinations to be growing, usually it should be left alone. Abdominal pain in general and, particularly, chronic vague generalized discomfort, ordinarily do not originate from pelvic disease and therefore do not respond to operations on the pelvic organs. Unless a clear-cut indication for surgical intervention is present, a careful history, thorough examination and carefully planned *medical therapy* will increase the percentage of favorable responses.

Iowa M. Soc. 44:104, 1954.

Case of Florida Diamondback Rattlesnake Bite

Patient bitten by 6-foot rattler was hospitalized under specified treatment for a period of twenty-two days

H. F. WATT, M.D., *Ocala, Florida*

Of the 4 poisonous snakes in Florida, the coral snake produces most venom per unit of weight. The most feared is the diamondback rattlesnake. This snake is capable of injecting a large quantity of venom as it has long fangs and can strike with tremendous force. Contrary to general belief, it does not always give a warning before striking.

The Florida diamondback is one of the two deadliest of 26 kinds of rattlesnakes in the United States.

Our patient, a worker who tended and "milked" venom from poisonous snakes, a large and muscular man, had been the victim of 9 previous bites of poisonous snakes — 3 of the diamondback. A 6-foot rattler struck above Gokey snake-proof boots and buried one fang in the soft tissue inside the right knee. The fang was pulled. The fang mark was cruxated immediately, tourniquet above bite, and suction applied to the cruxated wound. In 15 minutes patient was unable to walk; in 35 minutes he was admitted to hospital in Ocala. By that time he was experiencing a tingling of the hands, chest and face and a numbness of the upper lip.

The b.p. was 100/70. Inner surface of right leg dark area 1 in. in diameter. The fang puncture was excised and patient given 5 ampules of Antivenin, then a transfusion of 500 cc. whole blood. Suction cups were used intermittently for 10

AUREOMY

TYCIN*

HYDROCHLORIDE
Chlortetracycline HCl *Lederle*

Stands on its record!

Seven years of world-wide use . . . more than half a billion doses administered . . . millions of patients restored to normal health, many saved from death—this is the unsurpassed record of AUREOMYCIN.

AUREOMYCIN, the first extensively prescribed broad-spectrum antibiotic, must certainly rank with the major therapeutic agents available.

Thousands of published clinical trials have established its efficacy in combating many kinds of infection. Thousands of doctors give it their highest acclaim by regularly employing it in their practices.

A convenient dosage form for every medical requirement.

Lederle

*TRADE-MARK

hours on small incisions surrounding the fang puncture; 3 hours after the accident intense pain in right leg and chest.

The right leg, ankle to groin, kept in ice packs for 8 days. 20 hours after the bite the right leg, calf to groin, was badly swollen and black. Swelling started to decrease on the 5th day. The 11th day swelling and cyanosis were only slight.

From the 2nd to 6th hospital days the icterus index fluctuated between 6.8 and 11.2, highest 3rd day.

On 2nd day intense itching of the back and arms, completely relieved by 25 mg. Benadryl t.i.d.

Penicillin 400,000 units, and combined tetanus-gas gangrene antitoxin, 3,000 units given 1st day. Penicillin repeated 2nd day. Infusion of 1,000 cc. of 5% glucose given on 1st and 2nd days. Whole blood, 500 cc. each, 1st, 2nd, 4th and 6th days. One vial of Combiotic was given on each of the 5th, 6th, 7th and 8th days. Frequent doses of Demerol were required for pain. The position of the patient was changed every few hours.

T. ranged from 97 to 103 during the 22 days of hospitalization; lowest on 3rd, highest from the 5th through 8th, last 4 days normal. P. 72 to 115. Except for high albumin, urine was normal.

At discharge was able to walk a few steps, with difficulty. Numbness and tingling of the upper lip, which developed in a few minutes after the bite, was still sensed by the patient when discharged. He was confined to his home for a period of 102 days before he was able to return to work for part time duty.

J. Florida M. A., 41:367, 1954

Disorders of the Foot

Elimination of foot strain is the most important requisite for cure of most disorders of the foot

B. L. FREEMAN, JR., M.D., *Greenville, South Caolina*

The most frequent cause for foot disorder is the wearing of improper shoes, particularly women's small high-heel shoes.

Flat feet is a common condition of the longitudinal arch or transverse arch. Many flat feet are painless and serve excellently throughout without any artificial support. A painless, pliable flat foot serves much better than a foot with an extremely high arch. It is a great mistake to apply rigid arch supports to a flat foot, whether painless or not, since these may cause rigidity, and a rigid flat foot is exceedingly painful. If supports are necessary use a light pliable type of arch support.

Flat feet in children upset most parents. Many children inherit flat feet from one or both sides of the family. In infants the longitudinal arch may appear to be flatter than it it, because of the presence of a fat pad. With flat feet, frequently pronation or eversion may account for ankle pain in adults; this can be overcome by balancing the foot with a medial heel wedge. It is particularly important in children that pronation should be balanced, since continued eversion of the foot causes an abnormal line of thrust on the leg and may cause knock-knee.

Flattening of the transverse arch may cause excessive callus formation under the heads of the metatarsals and pain in the metatarsal area—metartasalgia. This may be relieved by fitting metatarsal pads to

relieve pressure from the painful area.

TREATMENT OF FLAT FEET

Most important in the treatment of flat feet is a program of foot exercises to strengthen the intrinsic muscles and those supporting the arch. A booklet understandable to the patient is available. If arch supports are necessary order the light, pliable type in a properly fitted shoe. These are to be used as a *reminder* to hold the foot up, rather than for support. In this way the muscle tone can be rebuilt so that the arch may be restored or the symptoms relieved — and the supports discarded.

A frequently unrecognized cause of foot pain is contracture of the Achilles tendon congenital or a result of polio, cerebral palsy, prolonged wearing of high-heel shoes.

Normally, in inversion, the adult foot can be dorsiflexed to 20 degrees beyond a right angle. If the ankle will not dorsiflex, stress to the forefoot in walking causes gradual breakdown of the arch and prominence of the metatarsal heads. With every step there is straining of the Achilles tendon and often pain in the calf-muscle group. This accounts for some "growing pains" in children and needs immediate attention. A high-heel shoe or elevated heel is sometimes resorted to by the patient, making the condition worse, since it favors more shortening.

The contractured heel cord will cause the person to walk "slew-footed." This allows some dorsiflexion, but in the tarsal joints, not in the normal location — the ankle joint. By excessive strain to the foot and overstretching the joints, a painful foot results. The contractured Achilles tendon and flat foot together play havoc. The foot is not put through a normal range of motion when walking; a rigid, painful, flat foot results.

SPECIAL EXERCISES

The first treatment is to stretch the tendon. Few will cooperate long enough and well enough to be relieved. Order shoe with no heel and the toe built up so as to constantly stretch the heel cord when walking is worn around the house. If patient is a child, parents are instructed in the stretching exercises. The foot inverted to lock the tarsal bones and prevent strain, then with knee extended the child must relax the calf muscle until the foot can be dorsiflexed to the maximum. At this point pressure is applied with the parent pushing the foot further into dorsiflexion, not so as to hurt the child. Stretch with the knee extended or no improvement will be gained.

Tenotomy and lengthening of the tendon is required in some cases—amount of lengthening very accurately determined.

Bunions are mostly from wearing too narrow shoes. For the mild cases, stretching exercises to strengthen the great toe, shoes with ample toe room, and metatarsal arch supports may suffice. Any operation should be fitted to the foot. If the deformity is more severe, operation consists of removing the exostosis and resection of the proximal ⅓ to ½ of the proximal phalanx of the great toe.

Calcaneal spurs are an indication of chronic foot strain. The pain is not due to the spurring itself, bursitis and plantar fascilitis are common sources of the discomfort. Provide shoes adequate in length and width, arch supports temporarily sponge rubber counter-sunk into the heel of the shoe underlying the painful area. After the foot becomes not painful, instruct in proper exercises.

For hammer toe we remove the proximal phalanx. Ambulation is immediate and recovery quick.

The Recorder (Columbia, S. C.), 18:15, 1954

Old Age and the "Vices"

Prohibition of "vices" may do more harm than good. Moderate "vices" should be permitted the elderly people

R. L. CECIL, M.D., *New York, N. Y.*

In old age there is time for reading and mediation, for travel, for recreation and sports, for the enjoyment of friends and family. However, there must be other interesting and even adventurous digressions. The "vices" in their mild manifestations are more properly habits, which when practiced in moderation, afford diversion and pleasure to human beings of all ages.

Of the casual vices in relation to old age, perhaps alcohol is the most important. Although tolerance diminishes in the later decades of life, complete deprivation of alcohol is rarely necessary in the aged, and may do more harm than good. The hypertensive patient, the chronic nephritic, and the diabetic can safely take their daily nip.

Nothing quite equals alcohol as a vasodilator. Alcohol relieves the anginal pain of coronary insufficiency and sclerosis, allowing more blood to reach the ischemic heart muscle. Its beneficial effect in intermittent claudication and thromboangiitis obliterans is well known. Part at least of the comfort which the very old derive from a drink is due to the improved vascularity of various organs and tissues.

Alcohol may interfere to some extent in the absorption or utilization of some of the vitamin B group. *All* old people should probably have a vitamin supplement capsule daily,

and this form of therapy is *essential* for those who have 2 or 3 drinks of alcohol every day. Many elderly physicians have given up the use of tobacco in the 60's or 70's, apparently for no other reason than the increasing irritation which tobacco-smoke produces in the upper part of the respiratory tract. Individuals who should never smoke, whether young or old, are those with thromboangiitis obliterans, intermittent claudication and the endarteritis of diabetes mellitus.

TOBACCO RESPONSIBLE FOR IRREGULARITIES

Smoking decreases peripheral blood flow in every instance; this persists for half an hour after smoking. Tobacco is often responsible for the irregularities, palpitations and tachycardias of old people.

I still favor the *moderate* use of tobacco for the aged, if no *obvious* harm results from its use. Like alcohol, it constitutes one of few pleasures available for the aging patient.

Insomnia is remarkably common in old people and contributes not a little to their unhappiness; the drugs far the most popular are the barbiturates. No one can question the propriety of an occasional capsule of pentobarbital, amytal or seconal, but how about 1 or 2 every night month after month, and year after year?

So-called barbiturate addiction is a misnomer. Ordinarily there is no craving when barbiturates are suddenly withdrawn, even in patients who have used these drugs for a long time; a tolerance is rarely established. The same dose will be effective for indefinite periods. There is too much fear of the barbiturates by both physicians and laymen. They do not affect the mind or intelligence of old people, unless taken in doses so large that drowsiness is induced during the day following.

Those who suffer from intractable insomnia should have 50 or 100 mg. of one of the quick-acting barbiturates every night, just as long as they need it — and that may be for a long time. To patients who do not react well to barbiturates, chloral hydrate can be administered with excellent results.

Overeating accounts largely for the prevalence of obesity in elderly women. Fire burns less brightly in old people, they should eat less food than the young. The food should be simple and nutritious and high in vitamin content, supplemented with a daily polyvalent vitamin capsule.

Idleness is a "vice" which many elderly people enjoy without any apparent harm to their general health. Every physician has aged patients who are bored by idleness — energetic people who desire nothing so much as an interesting and absorbing job. The problem of premature retirement is tied up with this unhappiness of the idle senescent.

Sexual indulgence is rarely carried to excess in the aged. Every physician has heard of instances in which sexual overactivity was followed by a cerebral or coronary accident; counsel moderation in these matters. Then there is the elderly patient who grieves over his impotence. We hear much nowadays regarding the waste of penicillin; but isn't the waste of testosterone almost comparable?

Jour. Amer. Geriatrics Society, Sept., 1955.

Congenital Dislocation of Hips

An early diagnosis now will permit home treatment by utilizing pillow and abduction splints

GARRETT PIPKIN, M.D., *Kansas City, Missouri*

In these days of increasing medical costs and acute shortages of hospital beds, it is indeed encouraging to report that a method has been evolved for treating congenital dislocations of the hip at home when it is diagnosed at an early date. If the results of this method only equaled those formerly obtained by manipulation and casts, it still would be worthwhile, as it eliminates the anaesthesias, the manipulations and the long months in casts.

Frejka, of Bruno, Czechoslovakia, during the years of World War II, was faced in his clinic with such large numbers of patients with congenital dislocation of the hip, and with paucity of personnel, hospital facilities and actual shortage of plaster that some method other than the time-honored reduction under anaesthesia and cast had to be developed. He hit upon a happy solution, the use of a pillow splint.

All treatment is carried out at home by the mother. The essential tool is a pillow which is folded into the groin of the patient and pinned there by the mother. Daily changes, each time taking up a little more slack over a period of several weeks or months, gradually bring the inferior extremities into the frog position. When this attitude has been effected, roentgenograms then show that the reduction has spontaneously occurred in a reasonable percentage of cases.

DIAGNOSIS

The diagnosis must be made early. It should be obvious from variations in skin folds in the gluteal area. The nurse should suspect its presence immediately from limited motion, which interferes with the application of a diaper, confirmed by x-rays.

Recently congenitally dislocated hips have been complicated by the introduction of such terms as "primary dysplasia," may be a good term for the embryologist but has little value for the clinician. The preferable classification is: (1) simple luxation, (2) posterior dislocation, (3) anterior dislocation.

The principle of the pillow splint has undergone some refinements. Frejka described a cover with straps into which the pillow could be fitted. This cover made it easier to maintain the desired position and could be removed for washing. Any seamstress can produce such covers or these may be obtained from a commercial firm in white, blue, or pink, including a plastic protected pillow at a cost of $12.50.

There are no particular difficulties in managing the pillow splint. The mother removes it as often during the day as is necessary. A routine daily bath with soap and water, followed by powder is advisable, as for any other infant. Should the hip be brought into neutral from the abducted position during these periods of change, no harm is done, although the mother is impressed with the importance of constant, continuous frog positioning on the periodic check visits.

Somewhere about 1 year of age these children attempt to stand and then to walk. Frejka permits them to do so wearing their pillow splint, and the waddle gait of such an infant with a pillow between his thighs is a wonder to see. American observers verified excellent reductions and development of femoral head and acetabulum with no further treatment than the patient walking with the pillow splint.

The feeling is that after reduction these hips should be maintained in wide abduction and internal rotation until the ball and socket are well developed. This requires continued splinting for two, three or four years. The length of time is determined by x-ray examinations.

ABDUCTION SPLINT

Compere has reported an abduction splint which may be suitably adjusted so as to decompress acute internal rotation gradually to neutral, obviating the necessity of rotation osteotomies. My experience has paralleled that of Compere. He has not done a rotation osteotomy since shifting to the abduction splint for the post-reduction stage. As to the Ponseti bar: children will eventually stand and jump on it, breaking the spreader, as incredible as that may seem. Hence, a bracing bar has been added.

It is best to cut out the toes of the shoes to expose the tips of the toes. In this way the parent applying the splint can more readily judge whether or not the feet are correctly placed in the shoes, which are laced loosely.

The child will soon learn the trick of sitting and crawling with the knees flexed, even though the abduction splint seems at its maximum width. Such activity prevents atrophy, and the extremities remain symmetrical. A mild knock-knee develops, which has been corrected later with an inner heel wedge.

When serial roentgenograms show the reduction stable, weight-bearing is permitted through the day, the splint continued only at night. In unilateral dislocations a 1-inch heel lift, with ½-inch sole lift on the good side, tilts the pelvis so as to maintain abduction of the affected hip when ambulatory.

Missouri Medicine, 51:29, 1954

Conditions Mistaken For Leukemia in Children

Since leukemia is universally fatal, it is important to be certain of the diagnosis before making such diagnosis. Acute leukemia should be suspected in a child who has been ill for some time with fever, anemia and enlargement of the liver, spleen and lymph nodes, and who may have purpura or bleeding manifestations and leukocytosis with an increase in lymphocytes, many of which may be immature. In such cases, however, only careful examination of all the formed elements of the blood as to quantity and quality may eventually afford the answer, and at times it will be necessary to examine the bone marrow, to arrive at a diagnosis.

The writer has viewed the records of 44 children seen at the Mayo Clinic in 1949-1952 who were suspected of having this disease but who were proved to have some other condition that was responsible for the findings suggestive of leukemia. All but 4 of this group were less than 5 years of age and most were 2 or less.

Of the 44 patients it was found that the great majority had an acute infection to which their blood reacted with an unusual increase in total leukocytes, or lymphocytes, or both. Pertussis may cause a high leukocyte count with a predominance of lymphocytes, and this infection was found to be the basis of the disturbance in 4 children, all less than a year of age, 1 child having 130,000 leukocytes per cu. mm. of which 80% were lymphocytes of immature types. Others in this group had infections of the respiratory, intestinal and urinary tracts or evidence of sepsis. Five children had infectious mononucleosis confused with leukemia because of the enlarged liver, spleen and lymph nodes and because of the lymphocytic increase in the blood.

S.D. Mills, *Minnesota Med.*, June, 1954.

Hodgkin's Disease

The first sign of Hodgkin's disease is usually painless enlargement of a lymph node, generally a cervical node. This may be the only clinical sign for months or even years. For this reason, it is necessary that any patient with a single enlarged node or a localized group of enlarged nodes be examined carefully. A cervical node which has remained enlarged should not be assumed to be inflammatory. The areas of lymphatic drainage must be examined, including the nasopharynx, tonsils and adjacent tissues. Biopsy may reveal only lymphadenitis. If other nodes appear, another biopsy should be made without delay.

Although there are no specific characteristics of enlarged nodes that are diagnostic, the nodes in Hodgkin's disease are usually fairly soft and multilobulated, whereas

in lymphosarcoma, the nodes are most often discrete and movable; and the initial node involvement is often unilateral in Hodgkin's disease and generally bilateral and symmetrical in lymphosarcoma.

The Cancer Bulletin, (Texas Edition), Sept.-Oct., 1954.

Electrocardiography: Its Value and Limitations

Cardiac muscle has essentially the properties of: (1) rhythmicity, (2) irritability, (3) conductivity, (4) tone, and (5) contractility.

The ECG gives information relative to the first three; tone and contractility, so important in muscle function, are not evaluated by this instrument. The ECG does not give data concerning the mechanical efficacy of the heart muscle, a very important feature in clinical evaluation. It has its greatest utility in disturbances of rhythm, irritability, and conductivity; certain other disorders produce characteristic patterns.

Certain patterns of ECG are of considerable diagnostic value: ventricular strain (hypertrophy) cor pulmonale, bundle branch block, pericarditis, coronary insufficiency, and myocardial infarction. When the tracing is equivocal, the safest course is to treat the patient as if an infarct existed. Most acute cases will develop typical patterns in 24 to 48 h. Sufficient leads, both unipolar and chest, should be used to avoid missing a small infarcted area.

For the diagnosis of infarction, both QRS and ST-T changes are essential.

Death of cardiac muscle is indicated by the development of a Q wave. Necrotic muscle is surrounded by a zone of partially damaged muscle, from which emanates the "current of injury" manifested by elevated ST segment changes. Infarction is probably the most common cause.

T wave changes may initially be the only demonstrable ECG evidence of infarction; they are likewise the most unreliable, and most likely to lead to a mistaken diagnosis.

The ECG can cause difficulty in differentiating cardiac and abdominal disease, e.g., a gangrenous ileum with peritonitis has produced a tracing interpreted as myocardial infarction. The diseased gallbladder notoriously produces suspicious tracings.

Atypical tracings may be obtained from multiple infarcts. ECG changes do not necessarily parallel the clinical state. Clinical features should prevail in judging the chance of recovery of the patient.

History and physical examination are of paramount importance in learning the cardiac status.

F.A. Marshall, *Jl Med. Soc. New Jersey*, 50:550, 1953.

Physiologic Psychology of Neurosis

The symbolic explanation that peptic ulcer is due to a hunger for affection is not borne out by studies. Thorough studies lent scant support to the idea that peptic ulcer was due to a generalized state of autonomic imbalance. The authors of a recent study concluded that anxiety caused gastric hyperacidity. Statistical analysis of their data showed that many of the changes were insignificant.

Moreover, no evidence was presented to prove that these questionable changes were due to anxiety rather than to anger, resentment, etc.

M.D. Altschule, M.D., *New England Jl of Med.*, Sept. 16, 1954

Hoarseness

As a transitory complaint, hoarseness is encountered frequently as the result of misuse of the vocal cords or as an accompaniment of the ubiquitous upper respiratory infection. Persistence of the complaint beyond a few days, particularly in those of middle years, requires *immediate* reference to the specialist for laryngoscopy which may reveal the early stages of menacing lesions, still amenable to therapy.

Hyman's *Differential Diagnosis*, 1953.

Tinted Eyeglasses a Sign of Anxiety?

Whenever a patient wears tinted glasses, one can suspect an anxiety tension state. I have confirmed this observation hundreds of times. Our residents are usually skeptical when first introduced to this sign, but are readily converted after 1 or 2 months of looking for its significance and observing the type of individuals who demonstrate it. The tinted glasses have 2 purposes: they serve as a shield from the world; and because these patients are uneasy and secrete an excess of adrenalin, their pupils are often widely dilated, so that bright light is distressing.

O.O. Meyer, M.D., *Northwest Medicine*, Oct., 1954.

The Detection of Splenomegaly by Percussion

Examine the patient in the right lateral recumbent position with the left arm extended forward and upward clearing the left lower part of the thorax. The spleen lies above both stomach and colon, permitting determination of its upper and lower border of dullness. After palpation for the lower border on inspiration, percussion is initiated at the lower level of pulmonary resonance in the posterior axillary line and carried downward obliquely on a general perpendicular line toward the lower midanterior costal margin. Normally, the upper border of dullness is measured 6 to 8 cm. above the costal margin. Dullness increased over 8 cm. is indicative of splenic enlargement in the adult.

The spleen is the crucial point in the diagnosis of many systemic diseases. When grossly enlarged the organ is usually palpable, percussion of its borders is for the most part unnecessary. Frequently, however, a minimally enlarged spleen makes palpation difficult, particularly in patients with muscular, poorly-relaxed abdominal walls. In the patient who is unable to inspire deeply for palpation, splenomegaly may be overlooked if percussion by the technic outlined is not utilized. In the differentiation of other l. u. q. masses arising retroperitoneally — such as the kidney and tumors — percussion in the r. lateral recumbent position produces tympany at the costal margin, in contrast to the dullness attendant on splenic enlargement.

R.K. Nixon, Jr., *New England Jl of Med.*, 250:166, 1954.

Albuminuria

Normal urine contains traces of albumins and globulins in the ration of 10 parts of the former to 1 of the latter. The state of pathologic albuminuria is reached when the concentration of urinary proteins approximates 80 mg. per liter, as evidenced by the characteristic precipitate that forms when the specimen is boiled and acidified. Except for the rarely observed Bence-Jones proteosurias and hemoglobinurias, proteinurias are essentially albuminurias.

Hyman's *Differential Diagnosis*, 1953.

Eating Excess of Fat And Atherosclerosis

High fat diet appears to be a great cause of coronary disease. Reviewing the results of a survey, it is noted that the degenerative heart disease rate is 4 times as great in the U. S. as in Italy, and that the average U. S. diet has 41% of the calories in the form of fats, while the average Italian diet has only 20%.

A decline in the use of fats in northern Europe during the last war was accompanied by a decline in degenerative heart disease.

Ciba Reports, Sept. 24, 1954.

Psychologic Factors in Low-back Pain

On the basis of psychiatric evaluation psychologic factors were regarded as significant in the disability of 24 of the 36 patients. Of the 23 patients receiving compensation for injuries, 14 were considered to show psychoneurotic complications.

The treatment of patients with back pain, especially when injury and compensation are important factors, is notoriously difficult. From observation of this group of patients derived criteria revolving about the patients' attitudes toward their symptoms and treatment and their reaction to illness indicate the presence of complicating psychologic factors. These criteria are based on the following 6 characteristics, which are readily observable if the patient is encouraged to discuss his condition: a history of the present illness that is vague because of confused chronology and because of the introduction of material having nothing to do with the injury and symptoms; expression of either open or veiled resentment to and criticism of the doctors and other personnel because of alleged mismanagement or neglect; dramatic descriptions of the symptoms and of the patient's reactions to them; difficulty in localization and description of pain and other symptoms; failure of the usual forms of treatment to give significant relief from pain; and accompanying neurotic symptoms.

Psychiatric and orthopedic factors are frequently combined to produce the final clinical picture.

Thornton Brown, et al., *New England J. Med.* 251:123, 1954.

Ausculation

Auscultation, too frequently neglected, indicates the functional state of the hollow bowel, the ominous silence of paralytic ileus contrasting vividly with the rumblings of organic obstruction.

Hyman's *Differential Diagnosis*, 1953.

For Infectious Diarrhea

Epidemic diarrhea in infants is still a serious disease, which may be produced by a variety of organisms. Certain serogroups of the usually innocuous *Esch. coli* may cause serious and even fatal disease in infants.

In 89 cases of infantile diarrhea from *E. coli* treated with Kaopectate with Neomycin, the diarrhea stopped and symptoms disappeared within one day.

E. A. Gorzinski, et al, *Antibiotics & Chemotherapy*, 3:798, 1953.

NEW PHARMACEUTICAL PRODUCTS

Panmycin *(Upjohn)*
Indicated in treatment of such conditions as pneumonia, bronchopulmonary infections, bronchitis, pertussis, pharyngitis, and tonsillitis. *Dosage:* As determined by physician. *Supplied:* In 100 mg. capsules, bottles of 25 and 100; in 250 mg. capsules, bottles of 16 and 100.

Phenaphen #4 *(Robins)*
Contains 1 grain of codeine phosphate. Used to control severe pain. *Dosage:* As determined by physician. *Supplied:* In bottles of 100 and 500 green-and-white capsules.

Prydon Spansules 0.4 & 0.8 Mgm. *(Smith, Kline & French)*
Contains belladonna alkaloids. Antisecretory and antispasmodic effect in treatment of peptic ulcer, Hypersecretion and spastic conditions of the G.I. tract. *Dosage:* usual, 1 spansule daily. *Supplied:* 0.4 MGM in bottles of 30, 0.8 Mgm. in bottles of 30.

Prydonnal Spansules *(Smith, Kline & French)*
Each spansule contains a total of 0.4 Mgm. belladonna alkaloids plus 1 grain of phenobarbital. Antisecretory and antispasmodic plus sedative action. In peptic ulcer, hypersecretion and spastic conditions of the G.I. tract. *Dosage:* Usual, 1 spansule daily. *Supplied:* In bottles of 30.

Desitin Suppositories *(Desitin)*
Suppositories contain crude Norwegian Cod Liver Oil, Lanolin, Zinc Oxide, Bismuth Subgallate, Balsam Peru, Cocoa Butter Base. Contain no narcotics or local anesthetics. *Indications:* Hemorrhoids after hemorrhoidectomy or sclerosing therapy, in pruritus ani, uncomplicated cryptitis and proctitis. *Supplied:* Boxes of 12 foil-wrapped suppositories.

Panmycin Hydrochloride, Readimixed *(Upjohn)*
A citrus-flavored, suspension of Panmycin in oil for pediatric use. Each 5 cc. contains: Panmycin (Tetracycline) Hydrochloride 250 mg. *Indications:* beta hemolytic streptococcic infections, E. coli infections, meningococcic, staphylococcic, pneumococcic and gonococcic infections, acute bronchitis and bronchiolitis, atypical pneumonias, and certain mixed infections. *Dosage:* Children: ½ to 1 teaspoonful 4 or 5 times daily. Adults: 1 to 2 teaspoonfuls 4 times daily at 6-hour intervals. *Supplied:* Bottles of 1 fluid ounce.

Ansolysen *(Wyeth)*
Each tablet contains pentolinum tartrate, 40 mg. or 100 mg. each 10 cc. vial. *Indications:* moderate to severe and malignant hypertension. *Dosage:* as directed by physician. *Supplied:* 40 mg./100's, 100 mg./100's, 10 cc. vial, 10 mg./cc.

Neo-Cortef *(Upjohn)*
Sterile ointment in a special base for ophthalmic and otic use. Each gram contains Hydrocortisone Acetate 5 mg. Neomycin Sulfate 5 mg. *Indications:* Inflammatory conditions of the exterior segment of the eye caused by infections due to neomycin-susceptible organisms; allergies; trauma; chemical or thermal burns and following intraocular surgery. Also used in ear infections such as otitis externa and media. *Administration:* Eye: Small amount applied three or four times daily. Ear: Small amount applied to the external ear canal two or three times daily. *Supplied:* 1 dram tubes with applicator tip.

Endotussin Syrup *(Endo)*
Antihistamine - antitussive containing dihyrocodeinone bitartrate, homatropine methylbromide, pyrilamine maleate, ammonium chloride, sodium citrate in a highly palatable vehicle. For control of coughs, especially those caused by various allergic conditions. *Dosage:* Administered orally, as required. *Supplied:* In 4 ounce, pint, and gallon bottles.

Alflorone *(Sharp & Dohme)*
Topical ointment used as anti-inflammatory agent for topical conditions. *Dosage:* Topically, in 1/10 the concentration previously required with hydrocortisone with same margin of safety and substantilaly less cost. *Supplied:* In tubes of 0.1% Alflorone acetate and 0.25% Alflorone acetate in an emolient base.

Cyesicaps *(Lederle)*
Phosphorous-free prenatal capsules, indicated as a supplement to the diet during pregnancy and lactation. *Dosage:* Recommended daily intake of Cyesicaps (6 capsules) supplies 100% of the minimum daily requirement for iron and 40% of the calcium minimum daily requirement during pregnancy. *Supplied:* In bottles of 100, and 1,000.

Roetinic Capsules *(Roerig)*
Potent, soft gelatin, mahogany red capsule containing 1 U.S.P. unit of vitamin B_{12} with intrinsic factor concentrate, folic acid, ascorbic acid, ferrous sulfate, molybenum, cobalt, manganese, copper, and zinc. For treatment of all anemias that can be controlled and treated without transfusion. Although not specifically indicated, it may be used as adjunctive therapy in anemias accompanying cancer, leukemia, and congenital disorders, as well as Cooley's anemia, sickle cell anemia, and aplastic anemia. *Dosage:* Administered orally; one-a-day therapy. *Supplied:* In amber colored bottles of 30 and 100 capsules.

Achromycin Ointment *(Lederle)*
3% tetracycline hydrochloride in a petrolatum-wool fat base for topical application. *Indications:* superficial infections of the skin and prevention of infection in wounds or abrasions and after surgery. *Dosage:* topical application. *Supplied:* ½ and 1 oz. tubes.

Cholografin *(Squibb)*
A water solution of a crystalline substance which is excreted relatively preferentially by the liver. *Indications:* to make x-ray visualization of the bile ducts possible. *Administration:* by intravenous injection. *Dosage:* As determined by physician. *Supplied:* A 20% sterile aqueous solution in 20 cc. ampuls.

Hydrocortone Lotion *(Sharp & Dohme)*
Contains hydrocortisone 1%. *Indications:* topical therapy. *Dosage:* small ouantity of the lotion is applied to the affected areas 2 to 3 times daily. *Supplied:* 15 cc. plastic bottles.

Delatestryl Solution *(Squibb)*
Indications: androgren therapy in both male and female. *Dosage:* As determined by physician. *Supplied:* 5 cc. multiple dose vials.

The Finished Product—vs—The Raw Material

In Gallbladder Therapy

Each tablet contains:

PURE DEHYDROCHOLIC ACID
0.25 Gm. (3¾ gr.)

•

BELLADONNA
8 mg. (⅛ gr.)

•

PHENOBARBITAL
8 mg. (⅛ gr.)

For therapeutic superiority in gallbladder management, Nubilic assures beneficial hydrocholeresis, since Nubilic contains not a mixture of bile salts or acids, or cholic acid, but the full dosage of

pure dehydrocholic acid,

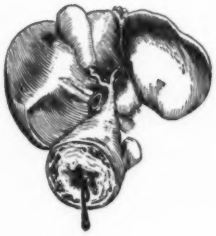
the ultimate product in bile processing. The therapeutic value of the other oxidized bile acids is not clearly known, but it *is* known that pure dehydrocholic acid definitely stimulates secretion of bile which is low in solids.

For comprehensive action, Nubilic contains

belladonna and phenobarbital,

to reduce biliary spasm, relax the sphincter of Oddi and thereby encourage free flow of bile into the duodenum.

Bottles of 25, 50 and 100 tablets.



NUBILIC®

HOBART LABORATORIES, Inc.

CHICAGO 10, ILLINOIS, U.S.A.

Establishing desired eating patterns

Obedrin®

and the 60-10-70 Basic Diet

With Obedrin and the 60-10-70 Basic Diet, the overweight patient receives specific, proved aids to control overeating. Loss of weight is accomplished more comfortably, while the patient develops new and better eating habits.*

OBEDRIN CONTAINS:

Methamphetamine for its anorexigenic and mood-lifting effects.

Pentobarbital as a corrective for any excitation that might occur.

Vitamins B_1 and B_2 plus niacin for diet supplementation.

Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Diet provides for a balanced food intake, with sufficient protein and roughage.

*Eisfelder, H. W.: Am. Pract. & Dig. Treat., *5*:778 (Oct. 1954).

FORMULA:

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

Write for 60-10-70 Diet Pads, Weight Charts, and samples of Obedrin.

The S. E. MASSENGILL COMPANY

Bristol, Tennessee

Use this Literature Service to get the latest information about the conditions listed

FOLD FIRST

FROM

FOLD SECOND

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY ENVELOPE
FIRST CLASS PERMIT NO. 205, SEC. 34.9, P. L. & R., WINNETKA, ILL.

Clinical Medicine
POST OFFICE BOX M
WINNETKA, ILLINOIS

Use this postage free mailer

To request literature through the free literature service.
To enter your subscription. To renew your subscription.

2 MONTHS BONUS!

if you renew before expiration date* or order a new subscription using this order form we will add 2 extra issues to your subscription account!

Circulation Department

Please enter my subscription to Clinical Medicine at the rate of
$5.00 ☐ 1 year $8.00 ☐ 2 years $10.00 ☐ 3 years

* How to read expiration date. Note code numbers appearing beneath address. Read only first four digits. First two digits represent month of expiration, second two digits represent year of expiration. 0155 means your subscription expires in January of 1955; 1156 expires November of 1956.

Literature Service Department

Please forward the following literature. I have circled the number that corresponds to the conditions listed in the free literature section.

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60	61	62	63	64	65
66	67	68	69	70	71	72	73	74	75	76	77	78
79	80	81	82	83	84	85	86	87	88	89	90	91
92	93	94	95	96	97	98	99	100	101	102	103	104
105	106	107	108	109	110	111	112	113	114	115	116	117
118	119	120	121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140	141	142	143
144	145	146	147	148	149	150	151	152	153	154	155	156
157	158	159	160	161	162	163	164	165	166	167	168	169

IMPORTANT fill in name and address

Name_____

Address_____

City_____ State_____

☐ subscriber ☐ non-subscriber

☐ GP ☐ Specialty_____

C355

LITERATURE SERVICE

Arrangements have been made to forward you the most recent literature available on the conditions listed below. Please indicate on the yellow self-mailer the information you desire by circling the appropriate number.

Allergies

1 allergic reactions
2 asthma
3 asthma (bronchial)
4 drug sensitivities
5 eczema
6 food
7 hay fever
8 urticaria

Blood, Cardiovascular

9 anemia
10 anemia (pernicious)
11 anticoagulant
12 arteriosclerotic peripheral vascular disease
13 angina pectoris
14 Buerger's disease
15 cardiovascular disorders
16 congestive heart failure
17 cardiac asthma
18 coronary arteriosclerosis
19 coronary thrombosis
20 chronic trenchfoot
21 dietetic restriction
22 hypertension
23 myocardial failure
24 myocardial insufficiency
25 peripheral neuritis
26 Raynaud's disease
27 thromboangiitis obliterans
28 varicose veins

Dermatology

29 acne
30 athlete's foot
31 bacterial dermatologic condition
32 bed sores
33 burns
34 dermatoses
35 eczema
36 external ulcers
37 fungus diseases
38 infections
39 ivy dermatitis
40 pruritus
41 topical infections
42 yaws

Endocrinology

43 adrenal gland
44 cretinism
45 diabetes
46 exophthalmic goiter
47 Graves' disease
48 hyperthyroidism
49 myxedema
50 pituitary gland
51 thyroid gland
52 thyrotoxicosis

Eye, Ear, Respiratory

53 bronchitis
54 choroiditis
55 coughing
56 eye infections
57 ear infections
58 iritis
59 keratitis
60 laryngitis
61 nasal congestion
62 night blindness
63 otologic dermatosis
64 pharyngitis
65 respiratory infections
66 sympathetic ophthalmia
67 sinusitis
68 tonsillitis
69 uveitis
70 vasomotor rhinitis

Gastrointestinal, Liver and Spleen

71 amebiasis
72 colitis
73 constipation (chronic)
74 cirrhosis of liver
75 constipation
76 diarrhea
77 gallbladder and bile ducts
78 gastrointestinal spasm (functional)
79 gastroduodenal bleeding
80 peptic ulcer
81 staphylococcic infections
82 streptococcic infections

Genito-Urinary

83 bladder diseases
84 cystitis
85 kidney diseases
86 prostate gland
87 pyelitis
88 ureteral diseases
89 urinary tract infections
90 urethral diseases

Geriatrics

91 anemia
92 arteriosclerosis
93 cardiac edema
94 chronic fatigue
95 climacteric (male)
96 constipation
97 insomnia
98 low blood sugar level
99 protein deficiency
100 senility (male)
101 senility (female)
102 vitamin deficiencies

Gynecology and Obstetrics

103 amenorrhea
104 cervicitis
105 climacteric (female)
106 conception control
107 dysmenorrhea
108 vaginitis
109 habitual abortion
110 leukoplakia (vulvar)
111 leukorrhea
112 menopause
113 menometrorrhagia
114 pregnancy tests
115 premenstrual disorders
116 postpartum bleeding
117 pregnancy (nausea & vomiting)

Infectious Diseases

118 brucellosis
119 pneumonia
120 Rocky Mountain spotted fever
121 tuberculosis

Neuromuscular

122 analgesia
123 joint and muscle pain
124 muscle dysfunction
125 muscle spasm
126 multiple sclerosis
127 neuralgia ischiatica
128 neuritis, diabetic
129 osseous and neuromuscular disturbances
130 Parkinsonism

Nutrition

131 anemia
132 avitaminoses
133 impaired fat metabolism
134 malnutrition
135 mineral deficiences
136 obesity
137 multi-vitamin deficiences
138 pellagra
139 protein deficiency
140 vitamin deficiencies
141 multiple deficiences

Pediatrics

142 bowel habits
143 diarrhea
144 diaper dermatitis
145 ear infections
146 formulas
147 infantile eczema, nutritional needs
148 scurvy

Rheumatic and Arthritic Diseases

149 arthritis
150 bursitis
151 gout
152 gouty arthritis
153 musculoskeletal pain
154 rheumatic disease
155 rheumatic fever
156 rheumatoid arthritis

Miscellaneous

157 alcoholism
158 barbiturate poisoning
159 debridement of necrotic tissue
160 edema
161 edema (salt retention)
162 industrial dermatoses
163 meniningitis
164 insomnia
165 nervous tension
166 psychoses

THERAPEUTIC TRENDS

Hearing Aids

Most persons with a hearing loss of less than 35% will not wear an aid as the benefit is not enough to put up with the trouble and expense. Some patients with a loss greater than 75% can wear an aid, but special care must be used in prescribing aids for such individuals. All patients with conduction deafness can use an aid. Patients with nerve deafness can use an aid provided they have enough nerve function left. If the 8th nerve is too badly damaged, one cannot relieve the condition with an aid any more than the ophthalmologist can relieve optic atrophy with glasses.

An aid amplifies sound. All hearing aids consist of a microphone, an amplifier, a power supply (batteries) and a receiver. All aids are similar in design and construction.

Transistor aids have transistors instead of vacuum tubes to amplify sounds. The advantages are their smaller sizer and fewer batteries; therefore, less battery expense. At the present time the initial higher cost offsets much of this saving. At this time, 5 such aids are Council-accepted. A transistor aid won't do anything that a vacuum aid won't. There is less distortion of sound with air conduction receivers and most patients prefer them. Contraindications to use of air conduction receivers are bone conduction that is a great deal better than air conduction, and chronic otitis media or externa. Some women prefer bone conduction receivers for cosmetic reasons as the narrow band and tiny receiver behind the ear are hidden by the hair.

Vacuum-tube aids costs $65 to $300; transistor aids cost up to $100 more. Vacuum-tube aids cost $3 to $5 per month for the average user; transistor aids cost about $2 per month or less. The life of a vacuum tube aid is 2 to 5 years; the life of a transistor aid is not known yet.

The main use of an aid is to enable the wearer to hear speech in small groups such as business or social groups, for lectures, church meetings, etc. An indoctrination period with repeated instruction and encouragement is highly desirable. Aids will never produce normal hearing, they amplify all sounds and the patient has to suppress what he doesn't want to hear.

To become adjusted to an aid months of patient effort are required but it is worth it.

J.B. Hollingsworth, *Medical Times*, 82:172, 1954.

Supplementation of Gastric Hydrochloric Acid

By replacement of the intubation method of gastric analysis by the simplified cation-exchange-indicator-quinine (C.E.I.Q.) urine test, it is now possible to conduct mass screening surveys to detect achlorhydria and its associated conditions, such as carcinoma of the stomach,

pernicious anemia, etc. A new medicine is available which adds HCl in quantities sufficient to ensure active digestive function.

Normacid(R) (*Stuart*) used in this study is a material which gradually disintegrates, releasing the HCl over a time interval comparable to the physiologic release of the normal stomach. Each tablet contains betaine hydrochloride 440 mg., methyl cellulose 110 mg., and pepsin (1 to 10,000) 32.4 mg., relatively 50% more acid than provided by the gelatin capsule.

One authoritative text gives values for the H Cl content of the normal stomach as between 80 and 140 c.c. of 0.1 normal H Cl. The H Cl content of each of the new tablets has been calculated to yield the equivalent of 30 c.c. of 0.1 normal H Cl.

Our experience indicates that initial dosage levels, even in true achlorhydria, should be no higher than one tablet with each meal for a period of several weeks. The majority of patients who have been achlorhydric for a long time and who have been receiving no therapy, occasionally experience transient nausea during the first few days of therapy. The dosage may be increased to 2 tablets with each meal after this induction period. Upon occasion the patients find that one tablet early in each meal and one tablet after meals is the most satisfactory plan of administration.

The medication was prescribed for 104 patients found to be achlorhydric; all but 6 of this group have reported a general improvement of physical condition and an increase in strength. The benefits to the other 98 have not been transient, nor can they be described in terms of psychological lift.

The complaint of indigestion with gas in 34 patients was completely relieved. Many others were relieved of vague discomfort in the epigastrium. All patients in our series are being maintained an adequate vitamin supplementation in addition to acid therapy.

G.S. Sharp, *Amer. J. Digest Dis.*, 21:140, 1954.

Obstetrics and Gynecology Notes

Smith et al treated patients with preeclamptic toxemia which was progressing in spite of the usual treatment with large doses of penicillin and/or terramycin. They noted a rapid reduction in albuminuria, onset of diuresis, and relief of subjective symptoms but a considerably less response in blood pressure. The beneficial effects were limited to the mother. They believe these drugs neutralize or eliminate a circulating toxin, that they help control but do not cure the toxemia.

Bechtold et al find chronic trichomonad infections, especially when entrenched in the endocervix, the greatest single cause of difficulty in differentiating benign atypical from true cervical neoplasms.

Wespi interprets intraepithelial carcinoma as a special kind of disease which occurs mostly under the age of 50 and is related to sexual function.

Sir Bernard Dawson, reporting on the Australian experiment to prevent eclampsia, give an incidence of one case of eclampsia in 9,000 deliveries under a regimen which has been in force for the past three years. The greatest possible vigilance in antenatal care, immediate hospitalization at the earliest signs of toxemia of pregnancy, and the induction of labor if it is not controlled, constitute the essentials of the regimen. The accent is on the early diagnosis and treatment with the conviction that albuminuria in a catheter specimen is a late sign of toxemia and that control must commence before its appearance.

J.W. Jones, *Jl. Ark. Med. Soc.* 50:189, 1954.

. . . no two hypertensives are alike

A. C. can't get along without Rauvera
Diagnosis: Fixed Essential Hypertension, Grade III

A. C.: Male, Negro, 31. Blood pressure 225/145, pulse rate 110. Excited, headaches, dizziness. Got good but not optimal reductions with Rautensin after 7 weeks, was therefore put on ***combination therapy***—Rauvera, 4 tablets daily at 4-hour intervals after meals. (Each tablet contains 1 mg. mixed purified Rauwolfia alkaloids—the alseroxylon fraction—and 3 mg. mixed Veratrum alkaloids—alkavervir.) This accomplished a prompt additional reduction of blood pressure to 125/80 and of pulse rate to 84. Dizziness, headaches and excitability disappeared.

Rauvera® is a DORSEY preparation. Supplied in bottles of 100, 500, and 1,000 tablets.

Smith-Dorsey • Lincoln, Nebraska • A Division of The Wander Company

A. C. can't get along without Rauvera . . . for no two hypertensives are alike.

Drug Treatment of Aged Patients in a State Mental Hospital

Thirty men were used in this study, and these patients served as their own controls. Their age range was 61 to 88 years, average 74. The patients were selected because of memory defect, confusion and deterioration, and mild behavior disorders, but without overt symptoms of serious emotional and psychiatric disturbances.

Cytochrome C parenterally, pentylenetetrazol (Metrazol) orally, nicotinic acid orally, either alone or in combinations of 2 or 3, and placebos identical in appearance and given by the same route, were administered to the same group of patients —Metrazol, 2 tablets t.i.d., a 24-hour total of 0.6 gm. for a period of 30 days; nicotinic acid 100 mg. t.i.d. for 30 days, placebos identical in appearance and administered by the same route were given for a period of 3 weeks in between the various courses of drug therapy. It was then decided to combine the various drugs, and for 21 days the patients were given an elixir of Metrazol 3 gr. (0.2 Gm.), and nicotinic acid, 100 mg., per drachm in a vehicle of compound pepsin elixir. One drachm of the elixir was given t.i.d., each patient 0.6 gm. of Metrazol and 300 mg. of nicotinic acid in a 24 hour period. Finally, for a period of 21 days, 5 c.c. of cytochrome C were given daily in addition to the daily dose of elixir.

On the basis of this study it is felt that the combination of Metrazol (an analeptic) and nicotinic acid (a vasodilator) is of value in the treatment of aged patients in an institution for the mentally ill. Particularly helplful for those with only mild memory defects and confusion, and in combatting symptoms of abnormal behavior so objectionable to the family members and relatives.

This combination has proved safe, simple, practical and inexpensive, and thus can be used without hesitation on an ambulatory basis.

Sol Levy, M.D., *Jl A.M.A.*, 153:1260, 1953

Odor Control For Wet-Colostomy and Ileostomy Patients

A powerful concentrated liquid deodorizer, known as DO 8, is most efficacious in the care of rubber, plastic, metal and glass equipment, and has no harmful effect on them. This includes body appliances, household and/or hospital equipment, e.g., hotwater bottles, ice bags, rubber rings, rubber sheets, and plastic pillow cases and mattress covers. The washed appliances are allowed to soak as long as necessary to free from odor.

The deodorizing of excreta as they collect in appliances when in use is accomplished by Deo-Tabs. These are readily soluble tablets that may be inserted into any body appliance, whether plastic or rubber, in which secretions or excreta are accumulated. One, two, or more tablets are inserted into the bag or appliance each time after the bag is emptied, the number depending upon the amount and character of accumulation and the length of the period of holding. These tablets are available in large-sized economy bottles, but a small pocket container will solve the problem for the working day.

The manufacturers of these two products have also developed a combined detergent-deodorant, called Deo-Kleen to give both cleansing and deodorizing action in one operation. This has proved efficacious in more than 80% of the cases.

Bul. of Cancer Progress, Jan., 1954.

Treatment of Acute Ophthalmic Injuries

After checking the visual acuity, 1% Pontocaine HCl and 2% fluorescein should be used in the conjunctival sac. If a foreign body is present, remove gently by washing with saline, by using a saline-dampened cotton pledget, or by using a spud. Any rust stain also should be removed by an ophthalmic surgeon.

Provided visual acuity is adequate in the other eye, patch firmly after first instilling medication, repeating this daily until healed as indicated by failure of the epithelium to take a stain. As a medication, one of the antibiotics (bacitracin, neomycin, Polysporin) which is not used systemically may be used. Gantrisin and sulfacetimide (15%, half strength), either in ophthalmic solution or ointment, are the topical sulfonamides of choice. Depending on the severity of the lesion, the age and the ocular tension, cycloplegics (2% homatropine and 1% atropine) may or may not be used to splint the iris and ciliary body.

Unless there is a tear in Descemet's membrane, corneal contusions respond to rest, firm patching, and mydriatics.

First aid for lacerations of the eyelid should involve sterile dressings. The cornea if exposed by an extensive laceration, should be protected by an ophthalmic ointment.

A patient with a burn of the eye may require Cortone, morphine, whole blood, plasma, or saline, along with antibiotics to prevent infection.

Skin burns of the eyelids should be cleaned gently without debridement and covered with thin vaseline gauze and a gentle pressure dressing.

All employees in chemical plants should be instructed as to first aid for chemical burns of the eye—to wash the eye gently for 5 minutes with tap water and send to the dispensary for instillation of ½% Pontocaine followed by 2% fluorescein. Foreign bodies removed, and the eye washed for 15 minutes. Stain is reapplied and flushed. If stain is retained, another 15 minutes of washing with warm saline follows. If stain is retained after reapplying fluorescein and flushing, the eye is considered to have a chemical burn; the eye is snugly patched, and the patient is sent to an ophthalmologist at any hour of the day or night.

H.W. Maxwell, M.D., Dallas, *Texas State J. Med.*, 50:658, 1954.

Control of Stomach Pain

Author takes exception to the tendency of internists to give a mixture of half milk and half cream to peptic ulcer patients. Under this regimen, many patients get fat and still retain their ulcer. It is the protein in the milk which has the important combining value for neutralizing acid. Skim milk contains as much protein as cream. A patient can take much more skim milk than whole milk or cream, and as the pH of the gastric juice is raised by skim milk, the peptic activity of the gastric juice is decreased.

In patients with a bleeding peptic ulcer, I like to insert a small polyethylene catheter into the stomach through the nose and drip skim milk 24 hours a day. If the bleeding does not stop under this therapy the patient should be operated upon.

The weight of patients who come to operation is a matter of no small interest to the surgeon. The author frequently employs a skim-milk regimen of 3 liters a day, supplemented only by Vitamin C and iron, to correct the obesity of fat patients with peptic ulcer before accepting them for operation. Few foods are superior to skim milk in the control of gastric acidity.

O. H. Wangensteen, *Gastroenterology*, September, 1954.

Cortisone vs. Aspirin in Early Cases of Rheumatoid Arthritis

In 1951 a special committee of the Medical Research Council made a carefully controlled study of the treatment of 61 patients in the early stages of rheumatoid arthritis, who were regarded as suitable for treatment with either cortisone or aspirin. These were allocated at random to treatment with one or other agent (cortisone 30 cases, aspirin 31 cases). These cases have now been treated and observed for one year. For most of the year treatment was "individualized" by the physician in charge of the patient at a dosage to restore maximal function without producing serious side-effects.

Observations made one week, 8 weeks, 13 weeks, and one year after the start of treatment reveal that the two groups have run a closely parallel course in nearly all the recorded characteristics—namely joint tenderness, range of movement in the wrist, strength of grip, tests of dexterity of hand and foot, and clinical judgments of the activity of the disease and of the patient's functional capacity. The hemoglobin level and blood SR were slightly more favorably influenced by cortisone, but in no other respect do the two groups differ materially.

On each form of treatment the disease was judged at the end of one year to be inactive, or only slightly active, in ¾ of the patients, and on each treatment some 2/5 of the patients were regarded as capable of normal work and activity.

This clinical trial was designed to answer a specific question: "Is it possible to maintain the well-being of a patient suffering from early and uncomplicated rheumatoid arthritis as well with aspirin as with cortisone?" Somewhat surprisingly the answer is unequivocally — Yes.

Report and Leading Article, *British M. J.*, No 4873:1223 & 1249, 1954.

BOOK REVIEWS

ENDOCRINE TREATMENT IN GENERAL PRACTICE, edited by Max A. Goldzieher, M.D. and Joseph W. Goldzieher, M.D., Springer Publishing Company, Inc., 44 East 23rd St., New York 10, N. Y. 1953. $8.00

The publication on this subject of endocrine treatment are so many that no doctor can read a tenth part of them, and so diverse as to do little more than confuse those who do read them. In this book of reasonable size are presented the opinions on which the score of authorities have agreed. It should be welcomed as a boon by practitioners generally.

DYNAMICS OF GROWTH PROCESSES, L. M. Kozloff, A. Novick & L. Szilard, et al, edited by Edgar J. Boell. Princeton University Press, Princeton, N. J. 1954. $7.50

The 13 papers presented at the Eleventh Growth Symposium held in June, 1952 at Williams College comprise the contents of this volume. The range in scope is from the analysis of virus reproduction to the mathematics of population growth. Physiologists, biologists and a good many practicing physicians will find here much to meet their needs.

A SYNTHESIS OF HUMAN BEHAVIOR, Joseph C. Colomon. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1954. $5.50

The writer of the foreword says that the author has attempted to categorize human behavior according to the growth of ego development; and that this synthesis allows one to see how the well integrated person progresses from infancy to old age. Ought to be interesting and instructive.

TRANSFERENCES ITS MEANING AND FUNCTION IN PSYCHOANALYTIC THERAPY, by Benjamin Wolstein, Ph.D., Clinical Psychologist. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1954. $5.00

The author says that the analysis of transference distortion is at the heart of psychoanalytic therapy. An eminent authority says transference means the displacement of the affect from one person or one idea to another; and that affect means the sum of an emotion or psychic trauma. The doctor who undertakes the treatment of most of his psychiatric patients will find much to interest him.

THE ATOM STORY, BEING THE STORY OF THE ATOM AND THE HUMAN RACE, by J. G. Feinberg, M.Sc., Illustrated. Philosophical Library, 15 East 40th St., New York 16, N. Y. $4.75

For the last dozen years or so the use of the word atom has been discouraged. We have been told about electrons, and lately about some things even further along in ultimate analysis. It is a comfort to find a master of science willing to tell us about the atom as though still an entity, and to find that a Fel-

low of the Royal Society endorsing the work with a foreword. Doctors and other intelligent folks can get much of interest and instruction from the little book.

THE TECHNIQUE OF PSYCHOTHERAPY, by Lewis R. Wolberg, M.D. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1954. $14.75

Many psychiatric books are coming from the press, but only very rarely does one appear which deals with technic. This book tells us what psychotherapy is and then about the varieties — supportive, insight, reeducative, not even neglecting the spontaneous cure. And the whole book is written with a minimum of words which mean nothing to the non-psychiatrist, and as many of us suspect, very little to the psychiatrist. Doctors who want to know what psychiatrists do to their patients and to understand something of the meaning of psychiatrist's reports on these patients will do well to read this book. Indeed, some nonpsychiatrists may learn from it how to treat some of these patients themselves.

SURGICAL UROLOGY, by R. H. Flocks, M.D., and David Culp, M.D., Assistant Professor of Urology. Illustrated. The Year Book Publishers, Inc., 200 E. Illinois Street, Chicago 11, Ill. 1954. $9.75

The authors have realized the need for a volume setting forth the more important anatomic, physiologic and surgical principles involved in operative urology, and have undertaken the preparation of such a volume. This reviewer believes that the undertaking has proved a success. The type is instructive and concise, the illustrations admirable.

vi-aquamin

first and only **aqueous** vitamin formula
with minerals, in a single capsule

stands head and shoulders above non-aqueous formulas

your patients receive all these advantages:

1. aqueous—for more rapid, more complete, more assured absorption and utilization of vitamins A, D and E (up to 300% better).
2. all essential vitamins with minerals because vitamins alone are not enough.
3. no fish or oil taste; allergens removed . . . nausea, regurgitation, sensitivity reactions virtually eliminated!
4. oral convenience with results that approach those of parenteral therapy.
5. economy appreciated by the patient.

just **one** VI-AQUAMIN capsule provides:

vitamins		minerals	
A*	5000 U.S.P. Units	Dicalcium Phosphate (Calcium . . . . 147 mg.) (Phosphorus . 115 mg.)	500 mg.
D* (calciferol)	800 U.S.P. Units		
Thiamine Mononitrate (B_1)	3 mg.	Ferrous Sulphate Exsiccated (Iron . . . . . 30 mg.)	100 mg.
Riboflavin (B_2)	3 mg.		
B_{12}	1 mcg.	Copper	1.5 mg.
Niacinamide	25 mg.	Iodine	0.1 mg.
Pyridoxine HCl (B_6)	0.5 mg.	Manganese	1 mg.
Panthenol	5 mg.	Magnesium	1 mg.
Ascorbic Acid (C)	50 mg.	Zinc	1 mg.
dl, Alpha-Tocopheryl Acetate* (E)	1 mg.	Cobalt	0.1 mg.
		Molybdenum	0.2 mg.

*Oil-soluble vitamins made water-soluble with sorethytan esters; protected by U. S. Patent No. 2,417,299.

SAMPLES and literature available from

u. s. vitamin corporation (Arlington-Funk Laboratories, division)
250 East 43rd St., New York 17, N.Y.

Clinical Medicine

Index to Advertisers

Ayerst Laboratories 292
Ames Co., Inc., (Bischoff Division) 228, 253, 284
Amfre Drug Co., Inc. 258
American Cyanamid Co. 272
Birtcher Corporation 271
Borden Co., The Prescription Product Div. ..... facing 240, 336
Bilhuber-Knoll Corp 287
Chase, A. 308
Ciba Pharmaceutical Products, Inc. 226, 227, 266, 278, 322, 332
C. P. T. Laboratories 316
Chicago Pharmacal Co. 262
Geigy Pharmaceutical Products, Inc. .. 309
Grant Chemical Co., Inc. 296
Gold Pharmacal Co. 264
Hoffman-LaRoche, Inc. .... facing 256, 257
Hobart Laboratories, Inc. 254, 319
Irwin, Neisler & Co. 290
Leeming, Thos. & Co., Inc. 230, 330
Lakeside Laboratories, Inc. 234
Lederle Laboratories, Div. Amer. Cyanamid Co. 302, 303, 310
Massengill, S. E. Co. 320
Organon, Inc. 248
Pitman-Moore Co. 335
Pfizer Laboratories, Div. of Chas. Pfizer & Co., Inc., 243, 244, 245, 246, 247
Paraderm Laboratories, Inc. 283
Paul Plessner Co. 304
Robins, A. H. Co., Inc. 232, 257
Searle, G. D. & Co. 280, 281
Shield Laboratories 265
Smith-Dorsey, Div. The Wander Co. 325, 327, 329
Travenol Laboratories, Inc. 288
Upjohn Co., The 241
U. S. Vitamin Corporation 333
Warner-Chilcott Laboratories .. facing 241
Wilco Laboratories 334
Wyeth Laboratories 233

Minnesota Medicine
2642 University Ave.
St. Paul 14, Minnesota
Exco 0651